

FORESTS



NOVEMBER 1940

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AMERICAN FORESTS

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THE AMERICAN FORESTRY ASSOCIATION

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The American Forestry Association is a citizens' organization for the advancement of intelligent management and use of the country's forests and related resources of soil, water, wildlife and outdoor recreation.

Its educational activities seek to bring about a better appreciation and handling of these resources, whether publicly or privately owned, that they may contribute in the highest degree to the welfare of the nation and its people.

In addition to publication of two magazines — AMERICAN FORESTS and CONSERVATION, both designed to keep before the people of the country important conservation questions and issues, the Association carries on educational projects in various fields including forest fire prevention, reforestation, protection of fish and wildlife, upstream flood control, prevention of soil erosion, preservation of wilderness areas, establishment of national forests and parks, development of forestry by private endeavor, the teaching of conservation in the schools of the country, promotion of research in timber growing and use and expansion of markets for forest products.

The Association is independent. It has no connection with any federal or state governments. It is non-political and non-commercial. All its resources and income are devoted to the advancement of conservation. It has been so operated since its founding in 1875. All citizens interested in forestry and conservation are eligible for membership.

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Member A. B. C.

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BIG TREES

Can You Beat This White Oak?

The American Forestry Association is sponsoring a national hunt for the discovery and preservation of the largest specimens of the different species of typical American trees. Locate, measure and nominate your candidate in this competition. ACT NOW to make known and save the largest specimens of America's trees. For further details, see page 412 of the September issue or send for special announcement of this Big Tree hunt. Mail your nominations with records and pictures to The American Forestry Association, 919 17th Street, Northwest, Washington, D. C.



MARYLAND'S MONARCH—THE WYE OAK AT WYE MILLS, MARYLAND

INTEREST in the hunt for biggest tree specimens grows apace. Since the first nomination—that of Suffield's great Chestnut Oak, in Connecticut, many others have followed. The second is the Wye Oak, at Wye Mills, Talbot County, Maryland. This is a great White Oak—the pride of the Eastern Shore, and a mecca for tourists in that vacation-land.

Nominated by Mr. F. W. Besley, State Forester of Maryland, the Wye Oak is ready to take on all competitors in the white oak group. It is believed to be the largest white oak, not only in Maryland but in the whole country, and will so remain on the record until its measurements are bettered by a successful competitor.

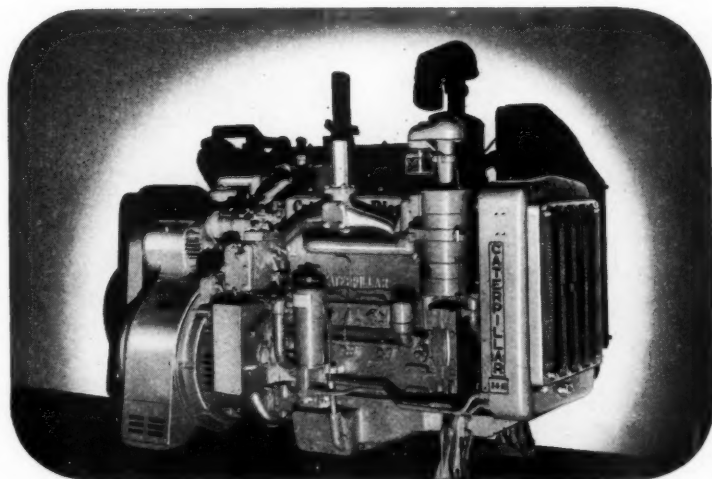
Its dimensions, taken in 1938, are: circumference, breast-high, twenty-seven feet eight inches; height, ninety-five feet, and it has a magnificent spread of one hundred and sixty-five feet.

This monarch of Maryland's oaks stands at the edge of the little old town of Wye Mills, about twelve miles north of Easton on State Highway 213. Its origin lost in antiquity, this tremendous tree was described by the late Dr. Charles S. Sargent as the largest and finest white oak that he had ever seen. Estimated to be four hundred years old, it is in fine condition, is very symmetrical, almost perfect in shape, and has a mass of buttressed roots.

Formerly the property of Mr. Kinnanon, of Wye Mills, it was purchased in September, 1939, by the State of Maryland, together with the two village lots upon which it stands, in order to insure its protection and preservation for all time. This was really news in the world of trees when it was announced, for it is the first time—of record—that a tree has been purchased by a State, purely to preserve it. Forever more the Wye Oak is the ward of the State of Maryland.

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Goodwin B. Beach

MR. BEACH was elected to the Board in 1940. He is a New Englander, and a conservationist of broad scope. He has taken an active and aggressive interest in forestry for many years, and is a former president of the Connecticut Forest and Parks Association. Intensely interested in developing the forests and parks of the State, he has always vigorously supported the State Forestry Department in its efforts to execute and expand its program, for he believes in the natural development of these areas for the recreation and health of the people. His knowledge of flood control problems, soil erosion, subsistence farming and conservation generally was gained through

OUR DIRECTORS

years of actual experience, and his understanding and appreciation of farm problems at first hand, for since his childhood Goodwin Beach has lived on a farm. He owns and actively operates a forest of five hundred acres in Vernon, Tolland County, Connecticut, in which he takes great pride.

Born in Hartford October 2, 1885, the son of Dr. and Mrs. Charles C. Beach, he was educated in the public schools of Hartford, was graduated from Harvard in 1907 and received an honorary degree from Trinity College. Deeply interested in sociology and history, Mr. Beach early gave extensive time to study along these lines and to labor problems, and the adaptation of our American way of life to the encroaching machine age, as affecting the people of both farm and factory. These studies and this experience naturally led him into the field of insurance. He was associated with the Travelers Insurance Company until 1912, when his own firm of Goodwin Beach & Company was organized. A member of the finance committee of the American Philological Association and formerly of the West Hartford Board of Finance, his broad financial experience has been invaluable to these and other organizations with which he is affiliated.

A Phi Beta Kappa at Wesleyan, Mr. Beach is an outstanding Latin scholar. He makes his home, and maintains his offices, in Hartford, Connecticut.

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The EDITOR'S LOG

WHEN and how is the Civilian Conservation Corps going to be geared into the government's National Defense program? Boys in the CCC camps who would like to make their time and efforts count for national defense, are wondering. So are a great many other people who believed that the Corps—largest

organized army of men in the country—would promptly be utilized to help meet the defense emergency.

Here in Washington, the answer to the question is in the clouds and there appear to be no silver linings. The Corps being what it is—an agency in which a half dozen different departments of the government have a voice—apparently is caught between the upper and nether millstones of departmental pulling and hauling. This much only is clear: Camp educational advisers have been asked to place emphasis on types of CCC training which might be useful in national defense, a dozen or so camps have been assigned to the War Department for manual labor in clearing training fields, and a greater number of CCC boys are to be assigned to the Corps' equipment repair shops.

But so far as an over-all plan of integration with a National Defense program is concerned, there is no evidence that one is even on order. Nor is there any evidence that the President, the War Department or the National Defense Commission has one in mind. In the meantime, the CCC goes on "as usual" employing an army of 300,000 youths at work based pretty largely upon a world at peace and a nation unthreatened by war.

• • • • •

It costs \$800,000 a day, or \$280,000,000 a year to maintain the CCC as now operated. One item in this budget has interesting aspects. It is the item of food. According to a recent report by the Army Quartermaster Corps, the food bill last year was \$36,141,000. A total of 277,128,000 meals were served. The amount of food involved appears staggering. Here are a few items in the bill of fare: 67,500 pounds of beef, 108,000,000 eggs, 27,000,000 pounds of pork, 13,500,000 pounds of butter, 67,500,000 pounds of potatoes.

Result—stronger and healthier boys. Tests conducted last summer showed that over a period of six months the enrollee gained an average of eight pounds in weight. That at least is a credit for national defense!

• • • • •

The Extension Service of the State of Georgia has just announced the results of a questionnaire sent to 1,800 Georgia farmers putting up to them the question: "Why people burn the woods." Replies brought twenty different reasons. To provide better and earlier grazing headed the list. To kill snakes and insects was a close second. Ignorance and carelessness and destruction of the boll weevil came third and fourth respectively. Among other reasons given were spite and malice, to burn out rabbits, and to get a thrill at the sight of fire in the woods. Making moonshine came far down the list, and only two per cent blamed smokers, hunters, and fishermen. The purpose of the questionnaire was not idle curiosity but to obtain information for an educational drive against the causes of uncontrolled fires in Georgia's woods.

• • • • •

An interesting sidelight on the editorial "Chief Forester," in the last number of AMERICAN FORESTS, is to be found in *News Week* for September 30. The note reads:

"Rexford Guy Tugwell, former Under-Secretary of Agriculture and Brain Trustee, may yet return to the New Deal. F.D.R. has offered him the post of chief of the Forest Service. Though Tugwell is earning a higher salary in his New York City job and has indicated that he wouldn't consider leaving it until the end of the year, he has an intense interest in the conservation question. In the event that Roosevelt wins reelection, it's entirely likely that he may hold the Forest Service post open until January and that Tugwell will then accept."

Orin Rusten
Editor.



IN THIS FORMERLY RICH AGRICULTURAL COUNTRY, RUINED BY HOT PRAIRIE WINDS, TREES ARE BRINGING PROTECTION TO THE LANDS AND ROBBING THE WINDS OF THEIR DESTRUCTIVE POWER

Above—On the Hines farm, near Neligh, Nebraska, where 52,000 cottonwoods were planted in 1938 when the shelterbelt was established. Despite recurring sandblows 85 per cent of the trees survived.

Below—The same area one year later. Though the Margaret L. Hines shelterbelt lies in the path of severest wind erosion, growth persists. Note the grass and young growth establishing bravely near the larger trees, which have themselves stood the attack of drifting sands several times during the year



Trees That Temper Hot Winds

By CHARLES R. SMITH

SPRING was creeping across the farm lands of northern Nebraska. Seven years had passed since the dust storms of 1933. A change had come over the countryside — a change for the better. More cattle were grazing in the fields. There were fewer untenanted farms. New hope was written in the faces of the farmers. Sitting in a hotel lobby at Neligh in the north central part of the state, a group of men was discussing the country's come-back.

"Don't forget, gentlemen," said one, "trees have had something to do with the change we are seeing. Do you realize there have been more trees planted in this part of Nebraska during the past five years than in any other region of similar area in the world?"

That remark got back to Carlyle Hodgkin, farm editor of the *Omaha World Herald*. It gave him an idea: Why not let people in other prairie states know and see what tree planting can do for dust blighted and drought stricken rural communities.

A few weeks later, 20,000 people from a dozen middlewestern states gathered in a shady park in Neligh. The date was June 16, 1940. Governor R. L. Cochran had declared it "Forestry Day" in Nebraska in recognition of newly planted trees which observers agree are playing an important part in the rehabilitation of farm life in a twelve-county area of the state. Within that area twenty-one towns had combined, organized, and cooperated to celebrate tree planting accomplishments hitherto unequalled in the United States, and to let the rest of the prairie world judge for itself the value of the work.

Neligh and the twenty-one towns joining in the demonstration lie in a section of Nebraska approximately one hundred miles square. When the black blizzards of 1933 and

1934 roared up from Texas and down from Canada they struck the region with blighting force. No part of the nation was more severely damaged than northeastern Nebraska, often called "The bread-basket of the nation." Here people for years had enjoyed a high per capita wealth and bumper crops; here for years they had plowed and cultivated and loosened the soil to the prairie winds, and here in the course of the years, the winds in their soil-stealing marches had begun to write

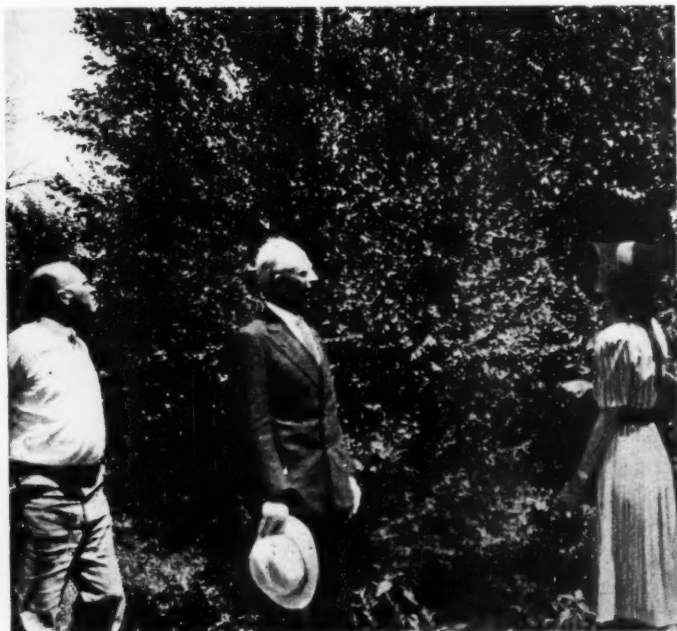


Among the trees planted to temper the hot winds, the Antelope County AAA Committee checks the height of a Chinese elm in the John Howard 1935 shelterbelt. The ladder is fourteen feet high and still a six-foot hoe was needed to reach the top of the tree!

ruin across the farm lands. The black blizzards of '33 and '34, as is now well known, brought that story of ruin to a sudden climax.

During the latter part of the nineteenth century Jules Sandoz, a Nebraska frontiersman, began planting trees on his sandhill ranch. "Spread the roots carefully, tramp the dirt hard, cultivate, cultivate and don't let the cattle in."

These were the rules he dinned into the ears of his family, friends and neighbors as he urged all to follow his example. Time and again prairie fires burned his trees, some were destroyed in wars between Indians and whites or in range wars between cattlemen and sheepmen but Old Jules kept doggedly at his task and replanted his orchard with seedlings shipped in by wagon train or dug from the sandbars in distant streams. He



An official party on Forestry Day inspects one of the windbreaks. General Chairman Lyle Jackson, on the left and Gov. R. L. Cochran in the center with Miss Marie Sandoz, the daughter of "Old Jules," a pioneer in the planting of trees on the sandhills in the 1800's, to beat the soil-stealing winds

replied to jibes of those who thought him 'teched in the haid' by saying:

"This land needs trees. We must keep them growing. They make the land fertile; they mean more money. They make this a good place in which to live."

After 1934, many a northeastern Nebraskan remembered how Old Jules had transformed a large area of sandy grazing land into a profitable orchard. When, therefore, the U. S. Forest Service suggested a cooperative plan of planting tree windbreaks as part of a long-range program to rehabilitate the land, many farmers accepted it as possibly a good idea.

It was fitting that Forestry Day should be celebrated in the midst of the territory which Old Jules roamed half a century ago and in which there is now the greatest concentration of windbreak trees in the nation. During the five years since the cooperative plan was started more than 11,000,000 trees have been planted on 2,526

farms in this twelve-county area. These plantings if placed end to end would make a row 1,467 miles long, 100 feet wide and averaging more than 7,000 trees to the mile.

To illustrate better the concentration of trees in this area one hundred miles square; in the six states of North and South Dakota, Nebraska, Kansas, Oklahoma and Texas in which the cooperative plan has operated 125,177,000 trees have been planted on 17,174 farms for a total of 10,954 miles. In forty-two counties of Nebraska, 18,494,000 trees have been set out on 4,068 farms for a total of 2,526 miles. The twelve counties contain more than one half of all the plantings in the state, one tenth of those in the six-state area.

The work in this six-state area is under the supervision of the Prairie State Forestry Project, a branch of the Forest Service. Its major function is to aid farmers and landowners in the establishment of field windbreaks particularly in those sections where the land has been destroyed or is threatened with destruction by wind erosion and repeated drought.

The farmers and landowners agreed to contribute over fifty per cent of the cost. They furnished the land, prepared it for planting, furnished fence material for enclosing the area, stretched the wire on the fence posts and cultivated the trees so long as necessary.

The Forest Service furnished the trees and planted them, set out posts for fencing, furnished bait for rodent control and supervised the care of the trees. The planting does not change the ownership of the land and the trees become the property of the land owner.

At first most of the farmers were unconvinced. It was difficult for them to understand how numerous, narrow strips of trees, located in a systematic pattern would protect and restore the land to fertility. They could not see how a windbreak half a mile long, a hundred feet wide and fifty feet high occupying approximately eight acres would protect a quarter section farm.

Forestry experts spent much time explaining how windbreaks would prevent soil from blowing, conserve moisture by reducing evaporation and by holding snow to melt where it falls, would prevent

young crops from being cut off or covered by shifting soil particles and later in the summer would protect growing crops from the dessicating effects of hot winds. These were the primary objectives but additional advantages were the protection of livestock and reduction of feed requirements in winter months; food and cover for birds and small game animals and eventually fence posts, fuel wood and rough lumber for use around the farm could be obtained from the trees.

In a tour of the twelve counties it is now possible to see windbreaks almost constantly as one drives along the country roads. The narrow belts of trees stretch off in the distance as far as the eye can see and it is not difficult to visualize the changes these windbreaks will make in the country when the trees have reached their full growth. The thousands of visitors to the territory on Forestry Day exclaimed in astonishment at the changes wrought by the 1935 and 1936 plantings which

have, in most instances, attained a height of twenty to thirty feet. The farmers on whose land the trees are located have many a story to tell about the change in social and economic life in the region.

Five years ago fields were barren and most farmers felt that to plant crops was a needless expense and futile gesture since there was little likelihood there would be a harvest. One could drive for miles without seeing cattle, hogs or sheep. One rancher who now has several miles of windbreak on his two-thousand-acre ranch pointed to a herd of 300 pure-bred Angus cattle grazing in the shade of one of these windbreaks. "A goat would have found slim picking in 1935," he said. "I lost nearly five hundred cattle in those bad years and had to mortgage the place to get along. Trees have restored the grass and I'm in business again. I'll be out of debt next year."

It is not an unusual story for on every hand the visitors saw broad acres green with small grain crops, or lush pasture grass and a frequently heard remark was—"We've the best crop prospects we've had in the past ten years."

The success of these tree windbreaks is not a matter of chance but the result of a carefully thought out plan on the part of the Forest Service. Extensive surveys and experiments resulted in the selection of some forty different species of trees for planting in the windbreaks. Most of the species were native to the Plains states while some imported species were used. Each windbreak contains several species and this has afforded insurance against epidemics of disease or insects which may wipe out a certain species. The plan has also provided trees of a different life span so that the windbreak can be perpetuated indefinitely.

The effect has been to "streamline" the long rows of trees which are planted at right angle to the direction of the prevailing winds and located so far as possible along section lines or quarter section lines. Rows of tall, extremely rapid growing trees are needed to erect a barrier against the wind in the shortest possible time in order to protect the adjoining fields. Other rows of slower growing trees flank the fast growers so that when the windbreak has attained reasonable size the crown will be roof shaped. Such streamlining lifts the winds from the ground and over the field but some of the air passes through the foliage at a reduced velocity to prevent dead air spaces from developing in the lee of the windbreak.

The majority of the windbreaks consist of ten rows of trees spaced ten feet apart. The outer row on the (Continuing on page 526)



Upper—In the John Howard shelterbelt in Antelope County, which was planted to golden willow, black walnut, Chinese elm and cottonwood in 1935

Center—The same area two years later, with growth established and well started

Lower—And after five years this photograph shows the fine growth of Chinese elm and cottonwood as well in the central part of the belt

CERTIFIED OUTDOORSMEN

By J. V. K. WAGAR

NATURE once certified outdoorsmen, and as long as Nature dominated vast areas, she did a splendid job of it. Men who were weak, foolish, or improvident often paid for their mistakes by failing to return from wildernesses they had entered. The ability of an outdoorsman could be measured by the breadth of wild lands he had traversed, by the simplicity of the equipment he considered necessary, and by his obvious ability to side-step the penalties that difficult wilderness situations exact from the unfit.

For many generations we have admired folk like Marco Polo, Columbus, Sir Walter Raleigh, Daniel Boone, Lewis and Clark, Sir Henry Stanley, Theodore Roosevelt, Carl Akeley, and the Martin Johnsons. These could pit their intelligence and strength against Nature's worst moods, remain oriented amid her most scrambled landscapes, and successfully match their wits against her most cunning creatures.

As a result, we have generated an habitual readiness to pay homage to those who seem to be outdoor experts. That this habit is almost universal is shown by its strength even among those who shun actual outdoor discomforts, and adventure only in the wilderness described on the printed page. More readers than the residents of Wyoming are required to maintain sales on Wister's *The Virginian*. City libraries lend Cooper's *Leatherstocking Tales* quite as often as libraries in remote villages. It required more than outdoorsmen to make Robert's *Northwest Passage* a best seller.

Just as most folk have admired great ability in outdoor arts, so have they desired to be outdoorsmen if only for the admiration they in return would receive. But in times past this was realized only by a few, chiefly because dangers and discomforts were too great and areas in which one could develop skill too remote for most people.

Now broad highways have replaced the nar-

row dirt roads which wandered into the back country. Swift and inexpensive automobiles travel as far in an hour as one could go in a day by horse and buggy. Airplanes in a few hours reach remote wilderness lakes once isolated by many days of canoe paddling and portaging. Gasoline camp stoves and lanterns eliminate the need for skill in firebuilding. Outboard motors carry fishermen across broad lakes to bays once reached only by those capable of long periods of rowing. Automatic fishing reels prevent slack lines which lost fish for the novice and permit the greenhorn to compete with the expert. Long-range, powerful, repeating rifles are so effective that no animals can now be considered dangerous and no need exists for a fine judgment of distance. Air mattresses replace the hard ground or awkwardly made bough beds. Portable phonographs and radios have taken into the wilderness the usual noises of civilization to blot out the meaningful but strange noises of forest and stream. Trailers replace camps with miniature modern homes. Medical science successfully combats illnesses resulting from ignorance or carelessness in out-of-the-way places.

The dangers, discomforts, remoteness, and need for skills that characterized the dreaded places which once produced great explorers are banished.

Released from old limitations, we suddenly became a nation of outdoorsmen. Hunters, fishermen, campers, and tourists increased enormously in numbers. Old-time outdoorsmen were delighted that new roads, new cars, increased leisure, and the removal of old fears could extend the pleasures they had enjoyed by virtue of their fitness to even those who were not so fit. These old-timers wanted us to commune with nature as they had — and we communed with Nature. We just about wrecked her! Because of our inexperience and in our haste to catch up with the accomplishments of outdoorsmen we had long admired, we erred in



The qualified outdoorsman — worthy of certification as Nature's familiar — would know that this is a good time to stay at home — too much snow for riding, too little and too soft for skiing



An impromptu rodeo, without benefit of audience. Cause?
A cold saddle on a frost-covered back

Right — Surpassing beauty and a real test of outdoor living skill are offered in mid-winter by the high lodgepole country of northern Wyoming



Lovely mountain lakes, far from roads or even trails, reward with their remote and quiet beauty those who have attained skill in outdoor travel

Lower — These outdoorsmen have "what it takes." At right — skiing for travel not sport in a Wyoming wilderness and, left — the camp of a couple of "backpackers" in a Primitive Area in the Roosevelt National Forest in Colorado



accepting the badges of accomplishment as important rather than the basic skills which made them possible.

A philosophical change had occurred simultaneously with our mechanical changes and was partly responsible for our mistakes. In a world becoming rapidly industrialized the go-getter, the man who obtained results, was most often honored. This new philosophy was soon extended to the open spaces by the growing throngs of outdoorsmen.

Outdoor literature capably pictures the change. In the pre-war, pre-jitney period, literature was developed of a type seldom produced today. John Burroughs, Jack London, Ernest Thompson Seton, Henry Van Dyke, Stewart Edward White and others of their kind were picturing outdoor America. Albert Bigelow Paine's *The Tent Dwellers*, America's fishing classic, was typical of the period. The accent of the time was on skill — how to equip for the outdoors, and how to live and think while there. One then often saw the old proverb: "It is not all of fishing to fish." Game and fish to show the neighbors were less important than living for a time in a country one desired to see and killing enough fish and game along the way to sample what the country had to offer and to reinforce the larder.

Today outing literature has changed. Why make equipment when one can buy it? Advertisements and *Where To Go* information tell less of the loveliness of strange countries than of what can be brought back from them. The most interesting trip is not one among the strangest people, nor among the tallest timber, but the one on which the best trophies are obtained with the least expenditure of effort, time and money.

"Results" is the motto of many outdoorsmen today. To have gone somewhere and returned with the memory of different living no longer merits distinction. We must bring home proof of prowess. A few guides will shoot deer to enable their patrons to return home as successful hunters. More than one fisherman has stopped at a fish hatchery to buy a large fish to place, with its mouth torn to simulate a removed hook, with smaller fish in the creel. Folk dressed like mountain climbers wear out their edging nails and hobs on the sidewalks of mountain resorts, where moves a greater and more appreciative audience than is found on distant peaks. Tourists plaster their windshields with any and all kinds of stickers to prove that they have been somewhere.

The woods are filled with folk with no idea of woods sanitation, care with fire, or outdoor good manners. Man-made fires increase yearly in numbers and are held down in size only through the genius of foresters who fight them. Landowners, enraged by an intemperate abuse of lands and privileges, put up more "Keep Out" signs.

It is true that some abuses existed before the last thirty years. There have always been foolish people, ill-restrained people, people who experienced a little and talked much; but never before has it been possible for so many of them to go so far afield. By their actions, by their lack of any standards save the word "results," which can be lengthened into "get yours while the getting is good," outdoor America is being destroyed. If too swiftly destroyed, there may be too little real outdoors left to season our vast horde of efficiently acquisitive but woodcraft-deficient outdoorsmen. Definitely located wilderness areas have been advocated since 1921 and have

been designated in national forests and national parks, but more wild places than these must be maintained to support the outdoor activities people desire.

Conversations with the very people who are destroying our outdoor resources prove that wilful intent seldom lies back of the destruction. These are merely everyday people doing at last what they have always wanted to do. Forty years ago most beginning outdoorsmen visiting back countries lived with or were guided by men with great experience and wisdom concerning things of forest and plain. Changing times deny today's beginners the privilege of learning their outdoor craft from old-timers. Many of them are self taught or have learned what standards they have from friends little more experienced than they.

We need today a system which will provide for the many the background, standards and objectives which under a kind of apprenticeship system was once extended to a few. We need something which will definitely mark and reward those with experience and wisdom in outdoor living, resourcefulness in outdoor emergencies, and with acceptable standards for outdoor conduct. That something should satisfy the current craving for results by demanding such a thorough understanding of the history and past magnificence of American wildernesses, of woodcraft, and of what constitutes self-sufficiency, that

whoever possesses the distinction is obviously deserving, even though he returns from the wilderness empty handed.

We need, in short, a certification of outdoorsmen, with several ranks to indicate differences in ability. One with proved knowledge and ability might be called a "Certified Outdoorsman," one with genuine skill might be known as an "Expert Outdoorsman," and one with unusual ability might be designated "Master Outdoorsman." Perhaps lapel buttons of bronze, silver and gold, respectively, could be worn to distinguish the three ranks. Certificates and identification cards would be necessary to prove the buttons were properly earned.

Requirements should cover a (Continuing on page 524)

LONE PINE

By GLADYS BRADSHAW PERRY

"Survival of the fittest," so say men
Who know not of the truth. But I, Lone
Pine,

Of once a mighty forest, who have seen
The march of generations come and go;
Who stood when Indian roamed, and bear
walked free;

When antlered deer feared naught . . . I
know.

I stood when settler came to clear a space
And rear a cabin for his little flock.
Appraisingly he looked at me, but I
Was crooked and deformed—in sapling
days

The winter wind had wracked me. Passing
by

He chose my neighbors, regal, straight and
tall—

All perfect pines—to build his shelter
with,

While I watched on. Then came the
lumberman.

With saw and ax, relentlessly he hacked
The work of God's long centuries. He gave
To me a glance, "Too crooked at the base,"
And I survived, while axes cleared away
The mighty forest, leaving only stumps,
A myriad of ghastly monuments
To stare in protest to the God above.
The years went by. At length, the cabin
walls,

No longer occupied, to ruin fell.

Still I remained, a crippled monarch of
The forest . . . I lived on, and on.

While, had I been of perfect symmetry,
As straight and tall as were my neighbors
there,

Would now be rotting, old and dead—
perhaps

A food for flames—instead of standing
here,

A faithful vigil keeping. I, alone,
The sentinel to mark the battle ground

Where once a glorious army stood . . .
and fell!

THE GRANDEST BIRD OF THEM ALL

By HARRY BOTSFORD



RUFFED GROUSE

From "Bishop's Birds." Reproduced through the courtesy of the J. B. Lippincott Company and with the permission of the author and artist, Mr. Richard E. Bishop

I LEARNED about ruffed grouse from a succession of elderly sportsmen who invariably referred to them as pa'tridge—which, of course, they are not. The elder statesmen may have been slightly foggy on nomenclature but they knew the manifest virtues of ruffed grouse. Today, I too infrequently meet one of the old school in the woods. They are a race apart; there is a wintry shade of pink on their wrinkled old cheeks and they wear battered old hats, weathered hunting coats and faultless boots of soft leather with a certain natural degree of grace and jauntiness that the younger sportsmen seldom achieve. Their guns are ancient and well-preserved, like their owners. There are too few of them; for I like to foregather with them on the sunny, friendly side of a shock of corn or sit beside them on a log and talk of the grandest game bird of them all—the pa'tridge.

It isn't always pleasant talk. For these old-timers are convinced that the pa'tridge are disappearing from the woodland picture. When we speak of this noble and gallant bird, we speak softly and with genuine affection, as we would of a friend, who was going away, never to return. We console ourselves in the memory of a past

when grouse were plentiful but we speak bitterly of the necessity that forces us to delve into the misty past for solace instead of being able to peer cheerfully into a happy future where grouse would exist in generous abundance.

We may be wrong, these old-timers and I. Perhaps there exist today as many grouse as ever. Possibly our feet, our eyes and our treasured old guns have lost their cunning. Yet, the evidence seems to support our mournful and cheerless belief that each year the number has lessened most dishearteningly.

I reside in a state where true and thoughtful sportsmen establish reasonable game laws and small bag limits. The same gentlemen spend time, money and intelligent effort in game propagation. They have staggered throughout the state a series of game preserves and refuges. Sportsmen's organizations cooperate with the Game Commission to see that food is placed at strategic points at the right time. Each individual who secures a hunting license is requested to return, at the end of each season, an account of the variety and quantity of game he has killed. An audit of game casualties, therefore, is

available. But, they have no census of the survivors. By and large, my state and yours, undoubtedly, apparently does everything in its power to give us good hunting.

Yet, in the face of such favorable and beneficent conditions, grouse appear to be getting more and more scarce. My experience during the current season gives added emphasis to the tragedy. I have hunted a solid week in an area within fifty or sixty miles of the nearest city. I have hunted in fair weather and foul. I have prowled the valleys where thornapple and shaggy little pines provide perfect cover; I have walked endless miles along twisting rail fences with tangles of blackberry and wild grapes in the corners. I have diligently worked the little spring runs through the woods. I've climbed mountains, through pines, hemlocks, scrub oaks and brush piles. I have hunted in the early morning, at high noon and late in the afternoon. I've hunted as much as ten solid hours a day. I have hopefully walked through old orchards around abandoned farms, where apples, like fabulous rubies, were glowing under a tangle of frosty grass, always an ideal place to flush grouse. If there is a single trick about grouse hunting I have not tried in the past week, it's one I have failed to learn and apply in thirty-five years of grouse hunting.

In that week I flushed less than a round dozen grouse!



Duane Kipp

The ruffed grouse — first citizen of all our game birds — on his drumming log



And I spent one delightful afternoon in the company of a deputy game warden who knew his territory like a book. Many days I hunted on land adjoining state game preserves. And I only bagged a brace of birds in the week. I earned those grouse! The pair I bagged represent the only good shots I had. A super wing shot might have bagged four of the number flushed.

My experience, in a measure, has been duplicated by every hunter I have met. I am not inclined to be unduly pessimistic, yet it seems to me that the situation is grave. We can ill-afford to have ruffed grouse go the way of the wild pigeon. That must not happen. Something must be done. What, I am not prepared to say. I do know that one generation of sportsmen would like to see game commissions and sportsmen's clubs devote a lot of time, money and thought to the possible and highly desirable matter of having more grouse. One way, in the opinion of those who love, cherish and honor the grouse, would be to spend more time and money in the propagation of grouse and less to raising ring-necks.

Ring-necks, by no stretch of imagination, can ever be a suitable substitute for grouse. The only point of similarity the two breeds have in common is that each is a member of the bird family. Where the grouse is a native, the ring-neck is an immigrant. Like most immigrants who have not been fully assimilated, he is currently more than slightly obnoxious. Where the grouse is wily and full of sound and disturbing strategy, the ring-neck is silly, without resource or the intelligence we must have in our wild game. The grouse, grand bird that he is, rises with a sudden, explosive roar and zooms behind the protective bulk of trees and bushes, providing the elusive mark that we alternately curse and praise. The immigrant runs like a coward, flaps into the air with a silly cackle and makes a mark as easy to hit as a Zeppelin.

The grouse inhabits cover that is never twice alike, where the hunter has to walk, tread softly and work hard to rouse him. There is no subtlety about the ring-neck. He is habit-ridden, a stolid individual who lives in a specific type of cover and who may be depended upon to be at home, day after day. He is so slightly removed from domesticity that he is frequently seen feeding with the farmer's chickens. His flaming and gaudy colors become cheap and tawdry besides the smooth, tailor-made sleekness of the gentlemanly grouse. In cold weather and deep snow he either stupidly starves or freezes because he has no native ingenuity or literally knocks on some farm door for shelter and food. The grouse gallantly, under such conditions, shrewdly snuggles deep into a snowdrift, tucks his head under a wing and sleeps out the storm. He is an excellent forager.

No; the answer isn't in ring-necks. A substitute is seldom the logical answer to any particular problem of importance.

Many difficulties are attached to the breeding of grouse in captivity. They do not take kindly to confinement. Which is to be expected. Mortality among grouse chicks raised on game preserves is probably higher than when raised in wild and natural surroundings by a mother who is brave, provident and infinitely wise in a terrain teeming with natural animals. Yet, despite all these apparent difficulties, it must be possible to raise grouse in large quantities. Surely science and the gentlemen who know grouse can perfect some plan for doing this at a reasonable cost. That, beyond question, is the one answer to the possibility of utter depletion.

Possibly a few closed seasons might do the trick and permit of a reasonable multiplication. Here, obviously, difficulties would be encountered. A closed season on grouse coincident with an open season for ring-necks

and woodcock invariably leads to unauthorized and illegal slaughter of grouse that is difficult to detect. That, many game commissions have discovered. This new generation of hunters may be responsible. I, for one, would willingly forego bird hunting for an experimental closed season year. I'd like to see what would happen. But, a closed season on grouse alone would not do the trick. It would only cut down mortality to a minor degree. There would be wanton and accidental killing and there would be the type of killing that cannot be condoned. A few days ago, hunting with a game warden, we came upon the body of a dead doe. The warden swore most heartily and informed me that within the week he had found three other deer wantonly murdered—all in one peaceful mountain valley. Mostly they had been shot with bird-shot, had crawled away to die a lingering, painful death. With that type of hunter in the woods, a partially closed season would fail to provide the type of protection so badly needed under such conditions.

Possibly certain counties could be closed to all shooting. Here, again, we encounter problems difficult of solution. Our forefathers probably knew what they were doing when they established county lines but I've never been convinced of any sanity being associated with that endeavor of our ancestors, for county lines meander and wriggle all over the map. It would be easy for an innocent hunter to walk from one county into another without suspecting it. Yet, if a sector of sufficient size were selected, certainly some good could be accomplished. It might be worth a try. I'd like to see the experiment made and the results weighed and properly analyzed.

The automobile has, indirectly, been responsible for the death of more grouse than any other agency. With the advent of the motor car and good roads, frontiers were not only pushed back but completely erased from the picture. Hunters can today go from here to there instantaneously and it is no trick to drive a matter of fifty or a hundred miles for a day's shooting. As a result, more hunters are tramping our woods and fields than ever before. The mountain valley refuges, the natural hide-away generations of grouse have used to their advantage, are now reachable by motor car.

Civilization is steadily reaching out, cutting down forests, clearing more fields, setting up new centers of population, pushing game into more restricted areas. But, in spite of this, in this and dozens of other states, there still exist hundreds of thousands of acres of perfect cover for grouse and an ample, natural supply of food, procurable throughout the year.

What's the answer, Mr. Sportsman? I'll confess I don't know. But I am concerned about it. I've known this gallant bird for many, many years. I hold him in deep affection. He is by way of being a national, natural resource, typically American, self-sufficient, self-supporting. He should be conserved. It's more than merely passing a law.

I'm not the only one who is thinking about this prob-



High in the aspens a female listens to the insistent mating call of the drumming male

lem, brooding over a tragedy I hope may be averted. But I am, in a manner of speaking, only a consumer. It looks to me like a job for the manufacturer. Above all, it's a job that will demand some close cooperation between all concerned.

As for me, it won't be many years until I join the ranks of the old-timers. When that happens I may even refer to grouse as pa'tridges. But there is a new generation always to be considered and, if we are decent citizens, possibly we have a measure of responsibility to that generation.

The other day I took Bud, who is twelve, out in the woods with me. I wanted him to hear the roar of a grouse unexpectedly tearing out of a thicket. I wanted him to see that momentary flash of drumming wings hurtling through the woods. Above all, I wanted him to know a little more about this first citizen of all game birds. He caught the glory of it. . . .

I was afraid tomorrow it might be too late. Within a decade, Bud might grow up not knowing the things I—and you!—have known and enjoyed. I didn't want that to happen. I'd like to hope that when Bud is old enough to take my old gun and go out in the woods that he will experience the thrill I enjoyed when I bagged my first grouse—a thrill that has been multiplied with every successful shot since that memorable day, thirty-five years ago.

TREES OF YESTERDAY AND TOMORROW

Coal Companies of Southern Indiana
Unite in Reforestation Program to
Make Mined Earth a New Land of
Trees, Scenic Beauty, and Recrea-
tional Wealth

By HARRY C. HYATT

TWO OR THREE hundred million years ago, conifers and giant tree ferns grew luxuriantly in what is now southern Indiana. Continuing growth, death and partial decay built up deposits of almost pure carbon, and then some subterranean convulsion lowered them beneath the surface of the ocean and sedimentary deposits were made directly upon the beds.

Today, conifers are again growing in this soil which has been hidden from the eyes of man these million years. This is truly virgin soil and there is romance in the thought that it is now being planted to the same type of plants that grew there the last time it was used, far

back in geological ages.

Each day new uses are being found for coal and its by-products. When we sit by an open fire in winter, when we store our clothes in mothballs in summer, when we enjoy the luxury of nylon hosiery or exotic perfumes we should remember that these comforts, pleasures and delights are made possible by coal—but not necessarily by coal mined in the darkness of the bowels of the earth. Today, an army of miners in twenty states mine coal outdoors. Instead of bringing the coal to the surface, they bring the surface down to the coal.

Of course, to mine coal by this process, the coal must



Trees of yesterday are extracted from the earth in the form of coal by giant power shovels which strip the overburden of soil and expose the naked mineral formed from forests that grew two hundred million years ago



Planted on the worked over soil, trees of today and tomorrow are converting the mined fields into forests for wood and rendezvous for the recreationist



Mining these age-old forests of coal causes no agricultural problem, for the land where coal is close to the surface is usually poor for farm crop production

be close enough to the surface to be secured by lifting up with power shovels the overburden of soil and rock. The depth to which coal is thus mined is limited by the mechanical equipment used, sixty feet being about the limit of the modern shovel. Open cut mining on a commercial basis is of fairly recent origin, although the process of obtaining coal by removing the overburden is the oldest form of coal mining. Primitive man probably discovered the properties of coal when he inadvertently built his fire on an outcrop of a coal seam and discovered that the "black stone" burned. Later, with shovels, he stripped off the layer of soil covering the coal, and further development was the use of horse-pulled scrapers. Today the industry is mechanized to a high degree.

In Indiana, the land which has coal close to the surface is poor agricultural land. Usually it is marginal or sub-marginal, the same type of land which the government is urging be taken out of agricultural use and utilized for forests or game refuges. In the nine counties where open cut mining is practiced, each is below the average of the state in rural land values, one county having a value of only \$20 an acre. Moreover, the total holdings of the mine operators amount to only one-third of the actual idle land in these counties—hence the operations bring about no agricultural problem.

Due to the thinness and friability of the slate and stone usually above the coal seams, the coal can be mined only by the open cut method. The expense of timbering, for

instance, would be prohibitive. Also, many of the veins are less than three feet in thickness which makes it impossible for the coal to be mined by hand, much less by the elaborate mechanical aids which are a part of all modern deep mines.

It is this ability to produce coal from territories which cannot be mined by any other method and the fact that open cut mining recovers practically one hundred per cent of the coal deposit that causes the federal Bureau of Mines to state: "Strip mining is a means of preventing waste of a natural resource which cannot be replaced."

After the overburden has been set aside and the coal secured, the worked territory is left as long ridges and valleys, with the last cut remaining open and usually filling up as a lake. In time, nature partially smooths down the contours, but the land has no value for cultivated agricultural crops because of the large rocks which are a part of the overburden. However, these worked areas are not waste land as they have a definite present and an increasing future value as forest and recreational areas.

Trees grow luxuriantly on the overburden slopes, much more rapidly, in fact, than on the same land before it is mined. The large boulders and rocks which preclude the use of the ground for agricultural crops are no hindrance to root growth. The reason for the rapid growth is that the land is virgin soil, hidden and unused since it was formed. The digging and re-depositing operations have aerated it, sweetened it from the limestone

Lakes, often formed from the last open cut, are soon integrated into the life of the community. The worked territory, left as long ridges, valleys and lake shores, bears proudly its burden of the trees of tomorrow





layers, and made it loose and friable for the penetration of roots.

In the last ten years, more than 6,000,000 seedlings have been planted on the overburden banks by members of the Indiana Coal Producers Association, a trade organization of open cut operators. Early this year the association, feeling the growing importance of this activity and the necessity for technical supervision of the work, selected a trained forester to coordinate the efforts of the widely scattered properties into a definite policy of conservation and cooperation with the communities in which they operate.

A large proportion of the trees have been purchased from the Indiana Department of Conservation which has cooperated unselfishly through the state forester and through the Fish and Game Division. Trees, particularly for experimental purposes, which the state could not furnish have been bought from commercial nurseries.

The Forest Land Classification Act allows a cut in land appraisal value if a minimum number of trees are planted. However, no member of the open cut group has availed himself of this opportunity for it is felt that the Act was not intended to apply to such reforestation work. Furthermore, members need no incentive to carry out their program.

Due to the hills and closed valleys which have been created, every drop of water which falls as rain or snow remains in the mined areas. Although the number of acres which have been or will be mined by the open cut method would be a negligible factor in flood prevention, nevertheless it has a great effect on the water table of the surrounding country. The building of lakes by the government on private property to decrease run-off and raise the water table is never necessary near a mined area.

A large proportion of the trees which have been planted are black locusts. These provide a quick screen of vivid green, hiding the unsightly banks. Moreover, being a legume they add important nitrogen in addition to increasing the humus content of the soil from their litter, the only important deficiency of the upturned ground.

Many of the lake banks have been planted to Scotch and red pine, with some spruce. These, some now ten or twelve feet high, bring back recollections of the nestling lakes of the Adirondaeks or the Irish Hills of Michigan. Lakes adjacent to highways have been stocked with fish and negotiations are in progress to give to the state certain of the lakes to be opened as public fishing grounds.

Development of recreational grounds must, of course, follow a different plan from a systematic forest program. A dense forest is not habitable or hospitable to animals or birds. There must be plantings of shrubs and trees which will furnish foods. Open spaces must be left where the sun can penetrate; grasses must be grown to furnish seed for winter. Hunting, fishing, boating, hiking and riding are popular recreations which enthusiasts can visualize as finding a place in a planned development. However, the long time ultimate objective of timber production is coincident with the recreational use of these worked territories.

The city of Linton, Indiana, in the heart of the mining

Trees grow luxuriantly on the overburden slopes — better than on the same land before it was mined. These pictures show a new pine planting at one, six and nine years old — the author standing in the last group, the height of which indicates the rapidity of growth of the planted trees

territory, recently acquired more than 600 acres of worked land which had been partially planted to conifers. The area surrounds twenty-eight lakes, one of which is two miles long. Civic leaders of that city visualize the creation of their own fish hatcheries in co-operation with the state, the brooding of quail, the building of roads and bridle paths, the development of skeet and rifle ranges and facilities for the enjoyment of boating and camping. Picnic and cottage sites are planned. A municipal forest with an arboretum of trees native to Indiana are a part of this recreational reverie. To the esthetically inclined, industry is never beautiful. The belching stacks and glowing cupolas of the steel mills, the vast excava-



Mined land, under systematic planting, may return high future forest and recreational values

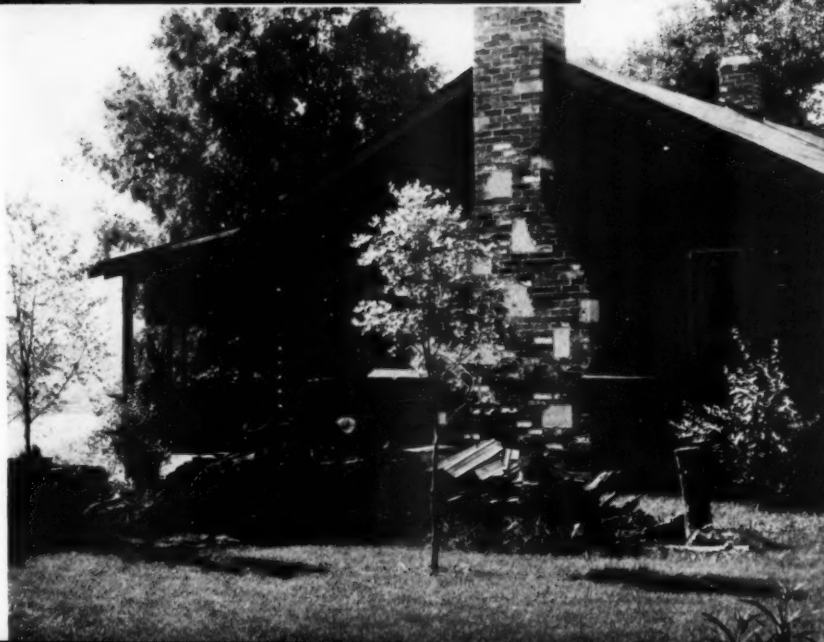


Hunting, fishing, boating, riding and hiking areas are all part of planned recreational development, and the reclothed lake shores offer delightful camp and permanent summer home sites

tions of the famous iron ore ranges, the cross country towers of the high tension transmission lines, the gob piles of the deep mines and the overburden slopes of the open mines are all scars on the breast of nature. To others, signs of industry are measured in terms of men employed, cheap and bountiful goods, and in the prosperity and happiness of the community.

Of all the familiar wounds and scars which man has made in the name of industry, and to obtain the natural resources which nature has knowingly and wisely scattered widely and in variety, the scars of open cut mining are most easily and quickly healed.

Some people, (*Continuing on page 528*)





WILDLIFE CONSERVATION

By JAMES N. MORTON

THE USE of visual aids in instruction and learning can be traced far back in antiquity. The earliest records were picture records. Ancient caves contained drawings and paintings of early animals. The caveman drew pictures both to warn and inform. Paleolithic man had a picture language of stone. The forerunner of the present-day blackboard was the use made of sand in the open-air and village schools of India. Egyptian hieroglyphics mark the transition from picture writing to early alphabets. Then followed the printing press and later the making of books.

The first book which made use of illustration to visualize subject matter was Comenius' *Orbis Pictus* in the seventeenth century. This departure in textbook writing has been brought to a high state of perfection in modern school books.

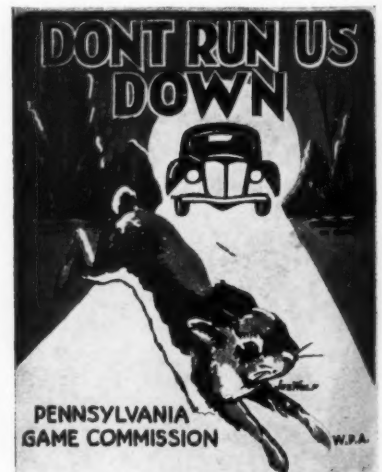
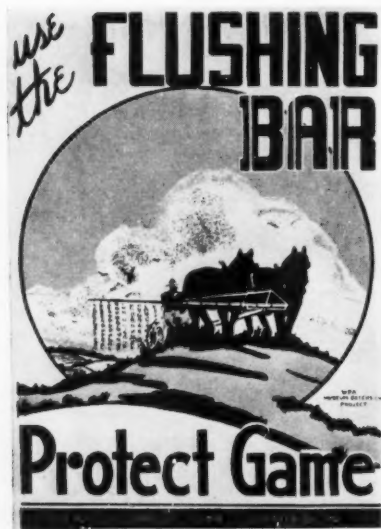
In the nineteenth century, Niepce and Daguerre made the first permanent photograph, an invention that proved of vital importance in visual instruction. Out of it have

come such distinctive variants as the stereograph, the slide and the motion picture.

Through history, from the earliest times, there has been a gradual development of visual aids and an increasing realization of their value in teaching by school administrators and executives of the American system.

For many years the Pennsylvania Game Commission has recognized the value of visual education in its wildlife conservation program. Motion pictures have been the principal medium in this connection. However, lantern slides and well illustrated bulletins have likewise played an important part.

During the past two years another phase of visual instruction in the form of colored posters, which give actuality to ideas, has been used. The Harrisburg unit of the WPA museum extension project in Pennsylvania has been making for the Game Commission colored posters stressing various phases of wildlife conservation. These same ideas have been stressed in other ways, but the posters present concrete rather than verbal imagery. More than 150,000 posters have been made by the silk screen process in from two to six colors. The posters are placed in the most advantageous locations, depending upon the class or classes to which their appeal is directed.



The Pennsylvania Game Commission, with Aid of 150,000 of Them — In State-Wide Visual Educa-

AMERICAN FORESTS

ION BY POSTERS



Sporting goods stores, grange halls, gasoline stations, and hunting camps are among the places used for display purposes. Some of the subjects covered by the posters, together with the reasons for their use, are herein briefly outlined.

The preservation and development of wildlife food and cover is recognized as of particular importance. Food and cover are wildlife's two fundamental and most necessary requirements on any area.

What wildlife needs most of all is a favorable habitat — a good home. The scarcity or abundance of wildlife depends to a great extent upon the amount of food and cover found within the respective ranges of the various species. Where there is a lack of proper food and insufficient cover, the game crop will not increase regardless of the fact that artificially raised birds are released, or that predators are kept under control, or that good game laws are strictly enforced.

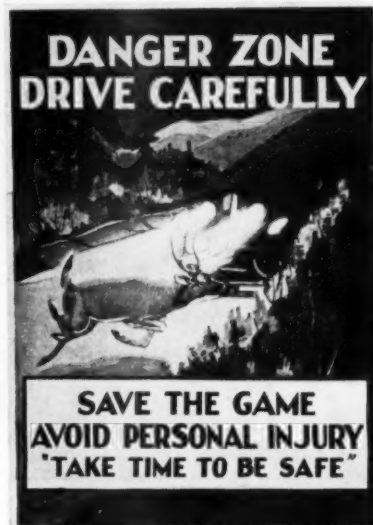
In an attempt to tell this story in a few words, vividly colored posters are used urging the planting of trees and shrubs for food and cover; others stress the need of plots or strips of grain for game food, and still others point out the necessity of preserving some of the natural growth along streams and fences for food and cover.

Forest fires annually take their toll of wildlife and at the same time destroy many of the game food producing shrubs and vines which provide food supplies. This angle in connection with forest fire control is frequently not recognized by forest lovers.

Nearly everyone realizes the necessity of forests to the happiness, comfort and welfare of man, but quite often they do not give much thought to the fact that other forms of life depend upon forest areas for their very existence. Practically all of Pennsylvania's wild animals and birds, as well as many song and insectivorous birds, depend in part or entirely upon the forest for food, shelter, concealment and breeding places.

The greatest enemy of the forest, and of the living things within it, is forest fire. Different kinds of colored posters depicting the losses to nesting birds and to forest wildlife are prepared and tacked in conspicuous places as mute reminders of the destruction to wildlife by forest fires.

The danger to human life by automobiles is vividly portrayed by means of radio broadcasts, placards, billboards and literature. Every motorist no doubt has been warned by some means hundreds of times to use every precaution to cut down the tremendous toll of human



WPA, Adopts Colored Posters — and Distributes
tional Program to Further Wildlife Conservation

life which is taken every year through the carelessness of some drivers.

There is another danger from cars about which we hear very little, and that is the destruction of wildlife on the highways through the thoughtlessness of speeding motorists. Everyone driving the highways has observed at some time or other the mangled or crushed body of some species of wildlife. However, all losses are not apparent to the most careful observer. Often a parent bird or animal is killed under the wheels of an auto. When this occurs the young of that particular bird or animal starves or falls prey to some stronger animal or bird.

Wildlife did not need to worry much about this menace to their well being twenty-five years ago, but within recent years there has been a constantly increasing danger in this connection. The increase in the number of automobiles along with the ever expanding system of highways through the best game territory makes this a real and serious problem.

Most forms of wildlife have been endowed in different ways by nature to assist them in self-preservation. Some kinds have protective coloration, others are fleet of foot or able to fly from danger, still others hide in holes from enemies — but they have not yet learned to dodge cars, obey stop signs, or to keep from becoming bewildered and frightened by glaring headlights. Thousands of wild animals and birds are killed each year by cars and the only sure way to cut down these losses is by constantly warning motorists to use caution and to give wildlife along the highways a chance to get away.

Attractively colored posters carrying an appeal to motorists to be careful and save wildlife have given beneficial results, but the losses are still great. It is to be hoped that this waste of wildlife, which belongs to the public, can be further reduced by constantly bringing the picture of the destruction before the careless driver.

Many farmers are recognizing the assistance rendered by these birds in their everlasting battle with insect pests and are leaving their roadsides, ditch banks and fence rows uncut to provide nesting sites and concealment from enemies. According to the men who study insect pests, we annually lose more than \$1,500,000 because of their damage to agricultural products. How much more damage insects would do to us if their natural enemies, the birds, did not keep them under partial control is difficult to estimate.

Many home owners in towns and cities likewise have materially assisted birds by placing food for them on window ledges or in feeding boxes. Discarded Christmas trees are often set up in yards and provided with bits of suet or other food fastened to the twigs.

Protection of birds and their value as insect eaters is another story told in colored posters prepared by the WPA under the direction of the Pennsylvania Game Commission.

During 1938, fifty persons were killed and over four hundred wounded in Pennsylvania through the use of firearms. Each year some hunters are killed and others injured, the great majority of these tragedies occurring because of someone's carelessness.

In an effort to reduce this loss to human life, colored posters have been prepared and placed in good locations prior to the hunting season. They warn hunters to be careful, to think before they shoot and make sure the target is not a human being. For the protection of hunters, other posters warn each one to wear red on his hunting coat and cap. This precaution no doubt has saved

more than one hunter's life. A tan colored hunting cap has more than once been mistaken for game as it came into view on the other side of a knoll, with fatal results to its owner. Of course the wearing of red does not guarantee that some fool will not take a shot at the wearer, but it most certainly does add to the hunter's safety in a great majority of cases.

Many persons unfamiliar with the ways of wildlife, often find what appear to be lost young of some wild animal. Almost invariably the young of wild creatures are not deserted — rather the parents have been frightened away by man's approach and will return soon after the apparent danger is past. At other times the little ones have been hidden by the mother while she goes to find food or water, but she does not forget where the young are left.

As a protection to these baby animals, posters are used urging people not to make the mistake of picking up "lost" fawns, or other baby wild creatures thinking they are humanely assuming the role of a benefactor. Difficulties in this connection have been reduced almost to a minimum and largely through the educational efforts which have been put forth.

When an adequate supply of natural food is not available for game, or where deep snow renders the supply inaccessible, it is necessary to resort to artificial feeding during the winter months.

Colored posters pointing out the necessity of supplying wildlife with food during the winter months are distributed and placed advantageously throughout the state at times when this phase of the work needs to be stressed. Many thousands of game animals and game birds are fed each winter in Pennsylvania with various kinds of grains and scratch feed, but the work needs to be constantly stressed in order that it continues. The posters have proven an effective means of keeping this problem before sportsmen, Boy Scouts and others interested in wildlife.

Stray house cats constitute one of the worst menaces to wildlife in the state. It has been estimated that a cat kills on the average of fifty birds a year. Some kill more, some less than this number. Cats often will kill the hatching mother bird or even destroy eggs of song and game birds prior to hatching. They will kill young song birds in the nest. They will eat young rabbits as well as baby quail and ringneck pheasants.

The abandoned or stray cat is the one which takes the greatest toll of wildlife. The habit of carrying unwanted cats into the country and dumping them along the road is widespread. This compels the cat to seek its living off the country. Such cats constitute a public nuisance and a menace to wildlife.

This danger to wildlife, and particularly to birds, is stressed in various colored posters made available for distribution. It is believed that many persons will be educated to the menace and refrain from carrying cats not wanted to the country where they must kill valuable birds and animals.

Posters as a means of education are not new, but their use in wildlife conservation has been neglected. Their use in accident and fire prevention has been widespread and undoubtedly they have done much good. It is believed that they have an important place in wildlife conservation and that their importance merits a more general use. According to psychologists, the sense of sight is the most important of all the senses in learning and it is generally conceded that retention, recollection, and recognition all depend upon vividness of impression, which is secured most effectively through visual aids.

ROLLING AT THE ROLEO

By CLAY PERRY



"King of the White Waters"

© 1937—George T. Springer

PAUL BUNYAN, genial giant of lumberwoods legend, invented one of the fastest competitive sports in the world—the birling bout which as practiced today on skinned white pine logs is as swift and sudden as a Joe Louis bombing party. A birling bout is fought with the feet and head. The contestants never touch each other and there is none of the grunting and groaning to weary the spectators who often go as wild as at a world's series baseball game.

The sport is now known as the *roleo*, a word coined by the writer to take the place of the cumbersome title that was once used to describe a tourney. This was in 1926. Thereafter the World's Championship Log Rolling Tournament became the Roleo and has been so designated officially by the National Roleo Association which stages the bouts in the Lake States.

Roleo had its origin in the legends of Paul Bunyan, the mythical lumberjack and river man of mighty deeds. As the story goes, the devil becoming jealous of Paul's prowess challenged him to any contest he might name. Paul specified a log birling match. It was a fast and furious contest lasting three weeks, during which an entire quarter section of pine timber was reduced to pulp by the two birlers. Finally Paul tipped the devil and gave him a good wetting. From that time the great American

game of log birling has been the sport of river hogs and lumberjacks from Maine to Oregon and up into Canada where Paul is credited with having first seen the light of day.

The first formal birling matches were private affairs, staged during lulls in log-drives or at a drives' end in a sawdust town where a barrel of whiskey could be provided as a grand prize. The jacks rolled logs with the bark on, but by 1888 the game had been so highly developed that nothing but skinned cork pine of specified length and diameter would do.

At this time, birling was a slower sport than it is today. Ab Thompson and Bill Delyea birlled all one day and half the next until one of them fell off. This was prior to the first recorded match of 1888 when the same pair whirled a pine log two hours and a half before Delyea gave up and Ab was recorded as the first world's champion birler or King of the Whitewater.

In 1892 a new champion arose, Johnny Murray, a grand old birler who bred birling sons that are in the game today. Old Johnny held the belt until the famous roleo of 1898 at the Omaha Exposition. He was likewise the first trick and fancy birling champion and passed his tricks on to his sons, Johnny, Junior and Jimmy.

The birling contest became the feature of that Omaha



Cilvia Winters with Mary Jean Malott,—whom the lumber-jills at the 1941 Roleo are out to beat — for she is the woman's champion and has been birling since she was six years old

Fair. The contestants were six of the best whitewater men on the Mississippi and the Chippewa. Three of them came from Eau Claire, boom-town logging center of America at the time. The other three were from Minnesota points. They wore high-cut boots with caulks in the soles almost an inch long which they called "corks," to "help them to stick to a revolving log in the water like flies to a molasses barrel."

There were thirteen bouts, the six being paired by lot to roll three different logs or until one of each pair had been wet. Each pair faced toward the middle of the log, which had a band about it forbidding either birler stepping into his rival's territory. After they had steadied the log, using poles, they flung the poles away and tried to dislodge each other—and how things did move!

Tom Flemming, wiry, cat-footed veteran of the black Chippewa drives won four out of five heats, the longest four minutes and five seconds. He took one six-second wetting from

Gus Miller of Minneapolis. When it came to the finals his bunk-shanty chum, Allan Stewart, had the same score, but darkness had settled so Stewart "graciously yielded first prize to Flemming" as Fred H. Gilman, editor of the *Northwestern Lumberman*, official recorder, put it. The prize was \$100 and it bought all the lumberjacks in Nebraska a drink.

It was a real lumberjack jamboree, with several hundred hairy timber-toppers yelling their palates loose for their favorites and swallowing their quids of *snoos* in excitement. Johnny Murray was there at the birl-fest and lasted three minutes in the first bout, when Gus Miller ducked the six-year champion standing. Others were August Dugas of Little Falls, Minnesota, and Larry Cyr of the Mississippi & Rum River Boom Company's crew.

Taking a jump of thirty years across several states and part of Lake Superior, we come to Bodin's Brownstone Bowl at Washburn, Wisconsin, on Chaqueme-gon Bay (pronounced Shawmagon) where Calvin Coolidge went fishing and missed something. He was invited to attend the roleo. I invited him, at the same time presenting him with a pair of birling shoes in behalf of the Roleo Association. They were low-cuts of special make, the caulks in the soles spelling out the President's name so that he might leave his foot-prints on the logs of pine, but they were never used for log-rolling—unless politically. The President went trolling for lake trout around the Apostle Islands during the three-day tourney and so missed seeing a high-school boy of eighteen who never had been in a logging-camp on a drive or even in a shingle-mill, defeat a veteran Ojibway-Sioux Indian pine-jumper who was born in a bunk-shanty and never had dry feet in his life.

Wilbur Marx, the high-school boy from Eau Claire, worked for more than half an hour to dislodge Joe Madawayosh, forty years of age and six feet tall, of Cloquet, Minnesota. This was under rules which required two falls instead of one for elimination. Old Joe made a heroic effort to recapture the belt he had held in 1924 and 1925, but youth told. I had to referee the matches and I wanted Old Joe to win. He was still Northwestern, Minnesota and Indian champion. He had lost in 1926 and 1927, it was said, because he was too full of exuberance, some of it out of a bottle which, it was hinted, had



Wilbur Marx, record holder of the championship, for he was King from 1927 to 1937 — gives an opponent a thorough wetting

been passed to him by some friends of his rivals. Joe likes water—outside of him—and he entertained the crowds, those two years, by climbing to the top of a thirty-foot diving tower and hurling himself into the eighty-foot deep Bowl in half a dozen different positions before he began cuffing logs at all. He got tired. It was different in 1928. Joe's good squaw kept him sober and he trotted timber like a wild-cat right up to the final log and kept the school-boy pounding pine all around the windy waters for thirty-two minutes before Marx wore down the long-legged, loping Naudawessie from the wilder waters of Cloquet.

Wilbur Marx is the long-distance champion of them all, and despite his lack of logging-woods training, he has won the respect of the old-timers by his speed, stamina, head-work, perfect balance and good sportsmanship. Chunky, with powerful, piston-like legs, he is ambidextrous, able to birl at best in either direction, whereas many roleo riders favor one side or the other. Marx might well be titled the Whitewater King of all time—save that he never rode a log in whitewater in his life. He trained at Half Moon Lake and on the river at Eau Claire.

Maybe that didn't bother the old quill-booted, bean-eaters from the sticks! Then came Escanaba in 1937. A college boy, Joe Connor, beat Marx and ended a ten-year reign for the Eau Claire boy. The water-soaked old riverhogs wept into their whiskers, even though Joe was a forestry school graduate and son of a riverman. They had got so disgusted with the way some of the birlers had gone sissy in their costumes that in 1937 they made a slight change—but a significant one—in the rules. They read, "All contestants must wear lumberjack costumes—no bathing suits."

Back to tin pants and balbriggans—and last year they had sweet revenge. Jimmy Herron of Kelso, Washington, a boom man, tipped Harley Foster off the pines twice to a win after the pair had spent just a bit over five busy minutes on three logs. Lumberjack Herron took only sixteen seconds to wet Foster on the toothpick log, then he turned a handspring on the tipsy timber and went in and won the block-turning contest by climbing up and over a section of log thirty-one inches in diameter and three feet long, seventy-seven times without



Joe Connor, Lake States boy, who took the championship from Wilbur Marx in 1937, only to lose it to Jimmy Herron of the Pacific Coast in 1938

stopping, which showed his Bunyan blood. What, no bathing suits? Take a long look at this: Stunning, brunette Mary Jean Malott of Spooner, Wisconsin, won the lumberjill contest from beautiful blonde, Cilvia Winters, of Astoria, Oregon. And did they wear bloomers? You should see them in their skin-tights of lastex! Likewise Marietta Phipps of Ladysmith, Wisconsin, and Arbutus Wilson of the same gentlewomanly town. The only trouble was the roleo queens didn't show very long, their bouts lasting but a few seconds each.

There was some talk of staging a jack-and-jill roleo at New York's World's Fair this year, but it was turned down. But a fine unofficial tourney was staged at Longview, Washington, when Jimmy Herron beat the best of the West Coast whirligigs and showed his triumph at Escanaba was no fluke. He wet Al Jennings after a tough twirl and is still champion.

The National Roleo Association has pro-
(Continuing on page
525)



Jimmy Herron, of Kelso, Washington — present world birling champ, who will defend his title as King of the White Waters at the 1941 Roleo at Gladstone, Michigan



Beetles have expensive tastes — evidenced by this fine timber cut on the Achoco National Forest, Oregon, in the fight on the borers from within



They like to pick on the nice ones. The old method was to cut, peel and burn in an effort to control their depredations



Now — as shown in this ponderosa pine forest on the Malheur National Forest Oregon — selective cutting is beating the beetles at their own game by removing the trees most susceptible to attack

BEATING THE

Tractors and Selective Cutting Are Making Possible New Strat- egy in War with Insects in the Pacific Northwest

FIFTEEN billion board feet of ponderosa pine were killed by bark beetles in Washington and Oregon in the years 1921 to 1939. The western pine beetle (*D. Brevicomis* Lec) did most of the damage. The forest in many areas was reduced by one-third, one-half or more.

During the same nineteen-year period, fire and wind destroyed less than one billion feet of pines in this area. Depletion by logging was seventeen billion feet. The beetles therefore were a strong second.

Before the recent beetle epidemic standing pine was considered a fairly safe investment. After the epidemic got under way this feeling of security seemed misplaced. The continued destruction of much of the best part of the timber for two decades and the expensive control methods which at best produced temporary results, suggested to the owners speedy liquidation of the threatened stands.

These beetle epidemics developed in Oregon on a large scale about twenty years ago. They were favored by a long severe drought. Analyses of tree rings made by F. P. Keen of the U. S. Bureau of Entomology and Plant Quarantine show that it has been the longest and most severe infestation in several centuries. The losses occurred at first in the drier sites where tree vitality was below average. With the continuation of the drought, beetle activity became serious also in the better sites. Losses of stumpage mounted until they were far in excess of anything that had happened since the beginning of the lumbering industry in Eastern Oregon and Washington. The anxiety of owners to realize on their trees before the bugs destroyed them is easily understood.

Money in rather large amounts was spent for control work. Control camps were a regular winter project. The cutting, peeling, and burning of

AMERICAN FORESTS

THE BEETLES

By E. H. MacDANIELS

Photographs by the Forest Service

beetle-infested trees was effective in slowing down the attack. In some places, it apparently prevented the development of local epidemics, but after the beetle attack had spread over a considerable part of the pine region the method became too expensive, particularly for the private owner.

Another objection to this method was that it was like locking the barn door after the horse is stolen. After several hundred beetles have laid their eggs under the bark of a tree and the eggs have hatched into grubs, the tree dies because the tunnels which the insects make cut off the flow of sap. It is then that the control crew fells it, strips the bark, and burns it along with the larvae. This method disposes of a good many thousand larvae whose aim in life is to kill more trees, but the lumber in the tree is degraded by bluestain and not worth salvaging.

The western pine beetle was a mean way during normal infestations or before an epidemic gets well started of picking out trees that contain a large percentage of high grade lumber. This cannot be blamed wholly to his disposition. Beetles, perhaps those with a low I. Q., often try their luck on a husky young tree with a large crown. When only a few of them try it they are drowned and washed out of their tunnels by the overwhelming flow of pitch that meets them. Their most successful projects are aimed at old yellow-barked trees whose crowns are thin, whose growth is slow, and whose circulation is below normal. When an epidemic is going strongly and the beetles are in force, they can and do kill trees of any vigor class, but their first choice includes the veterans that yield lumber which brings a market price of \$85 a thousand feet.

A good many foresters stayed up late at night trying to think up some remedy. That the beetles preferred



Fifteen years ago logging in ponderosa pine was by railroads, the cost of which usually called for clear cutting with results like that above



Then tractors came into the woods and made feasible selective logging and the leaving of reserve stands for growth and a later cutting



After tractors have "snaked" the logs from the woods to landings, trucks and trailers carry them to the mills or railroad centers

to work on trees in poor condition, including overmature trees, and that this class took in individuals which contained a large part of the higher grades of lumber, was clear. If logging operations could in some manner be stepped up to reach this vulnerable part of the stand before the bugs got it, important savings could be made; if the loggers could skip around, take only the trees that needed to be cut and leave the rest; if, in short, logging practice could be changed from clear cutting to light selection, the operations would cover the entire forest much faster.

But this was wishful thinking, because financially it was not practicable. Ten or fifteen years ago logging equipment was made for clear cutting or something very much like it. Logging trains picked up the logs at landings to which they had been skidded by horses. A quarter of a mile was considered the greatest distance that teams could skid logs if the operator expected to stay solvent. Railroad spurs, therefore, were less than a half mile apart. Building a railroad spur into every forty-acre tract could only be justified by taking out a large part of the standing timber.

Then trucks and tractors came into the woods and conditions changed. A "Cat" could haul good logs a mile or more and make the operation pay. Trucks could work in the pine country on cheaply constructed roads and often could use a highway system for the longer hauls. Today the financial necessity for clear cutting or for heavy cutting no longer exists in most of the area in Washington and Oregon where ponderosa pine is being logged.

With this flexibility in log transportation and decreased financial emphasis on the short haul, other considerations such as silviculture could be given more adequate consideration. Silviculture was always important even when it was largely ignored, but the limitations of horse and railroad logging kept it in the background. Even in Forest Service sales seventy to eighty per cent of the stand was removed. This opened the forest to an extent that was not desirable and reduced the growing stock to a point where the increment was low and the second cut was delayed too long, but with horse and railroad logging nothing much could be done about it.

The high mortality rate of the older and the less thrifty trees is a considerable item in converting virgin forests to managed forests. During the decades that elapse while a first cut is being made, much valuable material is lost by wind throw, snow and sleet, and normal insect attacks. The heavier the first cut, the longer it takes to cut over an area and the greater the loss in the uncut stands.

The virgin woods are well adapted to perpetuate *D. Brevicomis* and his beetle relatives. In normal numbers they cannot effectively attack thrifty, fast-growing ponderosa pine, but they do not have to. There is an ample supply of trees, overmature, more or less suppressed, fire-scarred, or for some other reason somewhat debilitated, that offer a constant invitation and welcome. If these trees can be removed, the bark beetles will find the going much harder and future epidemics should be less common and less severe than the one that has recently been so destructive. Further, if the competition of these trees for soil moisture is removed, the average vigor of the residual trees is raised and their resistance to attack improved.

When an epidemic of bark beetles which has lasted seventeen years is added to these considerations and when its duration of recurrence cannot be forecast, the reasons for light selective logging and for quick coverage of the

whole area becomes almost imperative. By one of those good breaks which sometimes happen, trucks and tractors make it feasible. Research by the Pacific Northwest Forest Experiment Station and the Forest Insect Laboratory of the Bureau of Entomology and Plant Quarantine has furnished a method and a plan in the development of which other forest experiment stations have been helpful.

The objectives are to realize on the more vulnerable trees before the bugs or other destructive agencies depreciate them, and to leave a residual stand with increased capacity for growth and with strong resistance to destructive agencies.

In the North Pacific region maturity selection cutting methods have been developed and applied on Forest Service and Indian Service sales; by one private owner-operator, the J. Neils Lumber Company, Klickitat, Washington, and on other private holdings where the residual stands will be later added to the national forests.

A tree classification which is well adapted for measuring beetle susceptibility and for marking ponderosa pine to be cut has been worked out by F. P. Kean of the Bureau of Entomology and Plant Quarantine. Briefly, he divides all trees into four age classes: young, immature, mature and overmature; or 1, 2, 3, and 4. Each age class is divided into four vigor groups, based on crown character. These vigor groups are designated A, B, C, and D, A representing the most thrifty group.

Susceptibility to beetle attack increases with age, and in each group it increases with the decrease in vigor, from A to D. In general, difference in age is not so important as difference in crown vigor. For example, an overmature tree (class 4) of A vigor is not so likely to die as a mature tree (class 3) of C vigor. Kean has set up hazard ratios for each tree class. On the basis of these ratios, it is possible to determine which tree classes are first in need of cutting.

The light selection, or better the maturity selection method of cutting used in Oregon meets silvicultural and economic requirements in a fairly satisfactory measure. It results in the removal of most of the overmature trees and of the merchantable trees in the C and D vigor groups.

The stand structure varies in different localities, and it is desirable to keep the cut so far as practicable to a maximum of not more than fifty per cent of the merchantable stand. Marking rules, therefore, vary and some discretion is left to the marker. A typical set of rules drawn for a ponderosa pine sale area in Central Oregon, which results in a cut of about fifty per cent of the wood volume, is as follows:

- (1) Mark for cutting all C and D trees.
- (2) Mark for cutting class 4A and thrifty 4B trees not needed to furnish seed, fill openings, or maintain the volume of the residual stand.
- (3) Mark for cutting only those 3A and 3B trees which in the judgment of the forest officer are a serious risk because of mechanical defects such as fire scars, heavy lean, or hazardous forks.
- (4) All other tree classes to be reserved.
- (5) It shall be understood that except for diseased trees to be cut a marked living tree of any classification must have, in the judgment of the forest officer in charge, a sufficient realization value to equal at least the direct logging and milling cost of its merchantable logs, exclusive of all charges for stumpage, for depreciation, and for margin of profit and risk, including interest.

When it is desirable to increase or decrease the severity of the cut, modifications in the marking rules can be made. It is not to be supposed that every difficulty has been met or that this phase of selective logging is final, but it is a long step in the right direction.

EDITORIAL



HALF A DUCK APIECE

MR. ALDO LEOPOLD, Professor of Wildlife Management, University of Wisconsin, has written for this issue of *AMERICAN FORESTS* a pertinent comment on the relaxation of the regulations pertaining to the hunting of ducks this year. The liberalization has been justified by governmental agencies on the grounds that the wild ducks have been staging a come-back in numbers since 1935 when their numbers reached a critical low. By and large duck hunters have welcomed the more liberal regulations. Some students of wildlife, however, hold reservations as to the wisdom of letting down the bars before the restoration of the ducks has been definitely assured. Among them is Mr. Leopold, a nationally recognized leader in the wildlife field. He writes:

The liberalization of waterfowl shooting seasons, recently announced by Secretary Ickes, is an event to give pause to all thinking conservationists, including duck hunters. "The rehabilitation of the ducks . . . should stand for all time as a monument to practical conservation." With this rosy introduction, the annual report on duck status proceeds to itemize:

Spring migration: "While the rate of increase showed a tendency to decline, the situation was considered satisfactory." Pacific Flyway: "The Alaskan nesting grounds are still greatly under-populated."

Mississippi Flyway: Improvement in Alberta and Saskatchewan, drouth in Manitoba. "In some instances, at least, restored water areas were immediately adopted . . . by waterfowl." "Population is on an upward swing." Atlantic Flyway: "Very little improvement over 1938." Nesting in the U. S.: "Shortage of water in most of the Great Plains . . . but improved conditions elsewhere."

PERIL TO STATE PARK SYSTEMS

OIL has figured prominently in the news of late—oil for conquest, for chaos, for mangled death. In Europe, in Asia, in Africa this black liquid from Mother Earth is a force that is driving destruction on its way.

Now in California, oil is casting new and threatening shadows. Not war this time, not bombs and mangled cities, but shadows of destruction nevertheless—destruction of a conservation principle that is typically democratic, typically American, and one which if violated in this instance may have repercussions in other states.

On November 5 California ballots will carry a state constitutional amendment, popularly known as Proposition No. 13, which would give the state legislature power at any time to sell or lease for commercial purposes any or all state parks when in the opinion of the legislature they become more valuable for oil and gas than for recreation. One needs only reason with experience to know that, if successful, this amendment might well threaten the integrity and permanency of

Fall migration: "Most satisfactory in Atlantic and Mississippi regions, a very slight improvement in the Pacific, and a distinct loss in the Central." Conclusion: "The January inventory indicates that the continental population (of ducks and geese) is about 65,000,000, nearly two and a half times the size of the stock in 1935."

Do these itemized reports add up to anything more than a good start toward rehabilitation? Considering the untiring shooters' lobby and the nearly continuous drouths, it is of course a "monument to practical conservation" that we have any ducks left at all. But is a continental stock of half a living duck per citizen and forty living ducks per duck hunter a very high monument?

Is the low ebb of 1935 a fair base for measuring increase? In another (and seldom quoted) report, our present duck stock is estimated as half of that of 1900. If we were to use 1900 as a base, our "monument to conservation" would be underground. The basic question is one of standards. Should we draw off all the increase in ducks, or leave a margin for safety? Is 65,000,000 ducks good enough, or do we aim for two hundred millions?

If we have another lucky year in respect of drouths, botulism, and delayed fall flights, 1941 may bring a further increase, despite Mr. Ickes' liberality to hunters. If the opposite, 1941 may bring a setback to 1935 levels.

We hear much, nowadays, of national belt-tightening, of willingness to curtail present pleasures for the assurance of a future. Have duck hunters heard of it? We also tried mortgaging the future in order to bolster present prosperity. Have duck hunters heard of this?

I too am a duck hunter, but when I cash in on Mr. Ickes' gift of fifteen extra days of shooting, I think I shall feel a little ashamed of our tribe.

state park systems everywhere. Should California, which boasts the finest state park system in America, surrender its redwood groves, its mountains and lakes and its historical monuments to oil and gas, the action undoubtedly would be seized upon by interests in other states to justify legislators making parks subservient to commercial resources politically appraised.

But this is not all. Donations from public spirited men and women throughout the nation have made possible the present system of state parks in California. Millions of dollars have been contributed, particularly to save and preserve outstanding redwood groves. To have such a public trust flagrantly violated may well prove more destructive to conservation progress than unnecessary commercialization of a few state parks.

The Save-the-Redwoods League and state conservation organizations are fighting the amendment. It is earnestly hoped that when the vote is taken on November 5 they will be successful in defeating it.



Truly distinctive in its beauty is the land of the Flat Tops in Colorado, explored by the Trail Riders this summer

TRAIL RIDERS OF THE WILDERNESS HAVE

Photographs by U. S. For

WHEN, on September 3, a party of bronzed, trail hardened riders swung out of the saddle at Whitney Portal, in California's High Sierra, after a dramatic ascent of 14,496-foot Mt. Whitney, The American Forestry Association's Trail Riders of the Wilderness closed the books on a year of record-breaking accomplishments. Exploring seven separate wilderness areas, two of them for the first time, 143 men and women, forty-two more than in any previous year, successfully completed eight expeditions, riding approximately 1,000 miles of wilderness trail.

Organized in 1933 to provide for greater public educational and recreational opportunities in the nation's remaining wilderness areas, the Trail Riders of the Wilderness thus expands its service to those who scorn the beaten path for unfrequented trails of the back country. Of the 143 men and women to participate in the expeditions this summer, ninety-seven were riding with the Trail Riders for the first time, the remaining forty-six being veterans. These riders—both old and new—came from twenty-four different states and the District of Columbia. New York contributed the greatest number with twenty-eight; Pennsylvania and California each contributed seventeen; thirteen were from New Jersey, twelve from Illinois, eight from Connecticut, six from Ohio, five from the District of Columbia, four each from Wisconsin and Oklahoma, to mention the leading states. Including 1940 riders, 487 men and women now have participated in thirty-four separate expeditions to the major wilderness areas of nine states. Approximately 5,000 miles of

wilderness trail have been ridden.

Two Rocky Mountain areas were visited by the Trail Riders for the first time this summer—the rugged Spanish Peaks-Hilgard Wilderness of the Gallatin National Forest in Montana, and the magnificent Flat Tops Wilderness of the White River National Forest in Colorado. Expeditions were again sent into the Great Smoky Mountains of North Carolina, the Sawtooth Wilderness of the Sawtooth National Forest in Idaho, the Gila Wilderness of the Gila National Forest in New Mexico, the Maroon Bells-Snowmass Wilderness of the Holy Cross National Forest of Colorado, and the Kings River Wilderness of the Kings Canyon and Sequoia National Parks and the Inyo National Forest in California.

The first expedition of the year set out from Asheville,

Nearly 150 men and women—a record number—sought the beauty and peace of the wilderness with the Trail Riders this summer. This party, one of eight, is approaching Trappers Lake in the Colorado Flat Tops



Trail Riders also explored the rugged Spanish Peaks - Hilgard Wilderness in the Gallatin country of Montana



S HAVE MOST SUCCESSFUL YEAR

by U. S. Forest Service

North Carolina, on June 17 for nine days in the last great area of primitive country in the East. This party of sixteen riders picked up the Great Smoky trail along the high mountain boundary between North Carolina and Tennessee, explored rugged country from the Cataloochee Divide to the Oconaluftee River, then struck back to Mt. Sterling. Veteran Trail Riders with this group were Miss Marian Mair, Oneonta, New York; Miss Marian Wayave and Miss Katharine Burr, Washington, D. C.; Walter H. Wuerdeman, Cincinnati; Miss Grace M. Price, Pittsburgh; Miss Grace J. Averill, New York; Miss Mary E. Bortner, York, Pennsylvania; Mrs. Pearl W. Dore, Baltimore; and Miss Alice M. LePage, Detroit. New riders were Dr. F. E. Cleaver, Avon, New York; Miss Anna M. Flaherty, Brooklyn; Miss Anneliese Janke, New

York; Lawrence Saunders, Bryn Mawr, Pennsylvania; Miss A. Violet Sermuks, Pompton Lakes, New Jersey; Miss R. M. Tresselt, Westwood, New Jersey; and Dr. Frank M. Wright, New Rochelle, New York.

The second Great Smoky expedition got under way on July 1, following the same itinerary as the first group. Twelve riders were in this party, including Miss Hazel I. Houston, New York; and Miss Julia H. Recker, Watertown, Connecticut, veteran Trail Riders. Riding for the first time were Sidney Mormar, Brooklyn; Miss Geraldine Smith and Miss Gertrude Zalkan, New York; Mr. and Mrs. E. G. Lane, Columbus, Ohio; Miss Ruth S. Hall, Hartford, Connecticut; Miss Carol W. Beitzel, Moorestown, New Jersey; and Hugo C., Hugh G., and Orin H. Soest, Middletown, Connecticut. Tom Alexander, Cataloochee Ranch, Waynesville, North Carolina, was in charge of both parties.

On July 15, less than a week after the second Great Smoky party returned from the wilderness, another group came together at Sun Valley, Idaho, to ride for fourteen days in the vast Sawtooth Wilderness, a wild kingdom of serrated mountains, alpine lakes and majestic pines. Numbering sixteen, this party included four veteran Trail Riders—Miss Emma L. Bolzau, West Collingswood, New Jersey; Misses Alice and Harriet Pierce, New York; and F. P. Nabenhauer, Philadelphia. New riders were Mrs. Arthur S. Roberts, Philadelphia; Mrs. Shirley D. Taylor, Athens, Ohio; Mr. and Mrs. G. G. Oberfell, Bartlesville, Oklahoma; Miss Emerline C. Phillips, Lexington, Kentucky; Herman Leonard, Allentown, Pennsylvania; Miss Helen Mundheim, Tacoma, Washington; Mr. and Mrs. C. D. Ingersoll, Oracle, Arizona; Mrs. E. G. Cook, Lansdowne, Pennsylvania; Miss Mary G. Erickson, Santa Barbara, California; and Miss Eleanor Hetzel, Racine, Wisconsin. Professor Shirley W. Allen, of the School of (Continuing on page 522)



A WORKABLE PLAN FOR PREFABRICATED HOUSING

By C. R. FRENCH

ALTHOUGH factory manufacture of shelter units has been a widely discussed possibility for a decade, few people realize that within the last six years the Quartermaster Corps of the War Department has accomplished probably the biggest job of so-called "prefabrication" in the United States, if not the world. Since 1935 the War Department, which is charged with the so-called "housekeeping" responsibilities for the Civilian Conservation Corps, has purchased and erected in 1,500 locations approximately 20,000 prefabricated buildings in which 300,000 men have been quartered.

Thus aside from its intended purpose of rehabilitating the youth of the nation, the CCC has resulted in the acquisition by the War Department of a background of experience in ready-made, demountable housing, which seems made to order for the important task of housing not only 300,000, but possibly 3,000,000 men, which may present itself within the next two years.

CCC work rarely requires maintenance of a given camp location for more than a year or eighteen months. The original structures built in 1933 and 1934 were not demountable, and attempts to dismantle and re-erect them proved costly. As a result, experiments looking toward the development of a sturdy housing unit of panelized construction which could be assembled with simple bolts and lag screws were started in the spring of 1934. A type of building was sought which would meet the following requirements: Simplicity of design, interchangeability of parts, sturdiness, and ease of fabrication. Further requirements called for economy, comfort and weather-tightness; a type of construction suited for universal application in any climate and capable of being transported by normal means—truck, rail and water.

Many panel assemblies were tried, but most were discarded. Finally an arrangement of floor, wall, roof and partition panels was evolved which gave promise of simple fabrication and ultimate economy. The roof panel presented the greatest difficulty. This was solved through the combination of the functions of a roof surface with those of the top chord of a truss. In other words, the rafters which constitute integral parts of roof panels were designed so that they were at once used as mem-

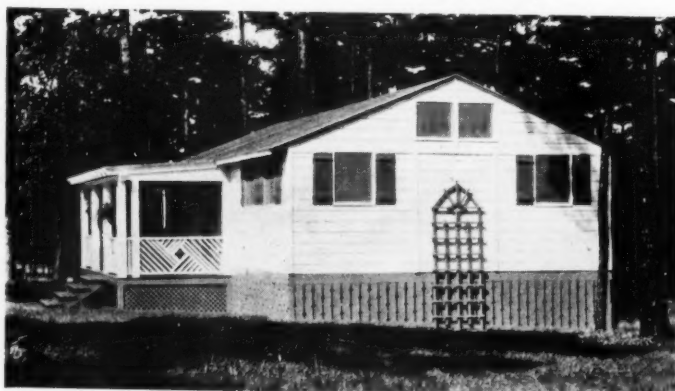
bers of roof panels and as top chords of trusses spaced ten feet apart. This design had to be worked out largely by the application of intelligent engineering judgment, since the combination of stresses developed in the unique



A typical CCC camp building, indicating the sectionalized structural construction and panel use of matched lumber



Enrollee labor is used for the erection, dismantling and moving of ordinary CCC camp buildings



Adding a porch and a few decorative features transforms a small CCC unit into a very livable home

arrangement of structural members was not subject to simple rational analysis. Further, the truss connections required more strength than could be developed by bolts. Timber connectors were indicated and their use provided adequate joint strength.

In the 1939 annual report of the director of the CCC was the following statement:

"During the year 1938, when the transferring of portable camps first became widespread, 125 transfers took place within the limits of the various corps areas and forty-one transfers were effected between corps areas. Strict adherence to an economical design and common sense application of standard construction methods have resulted in relatively inexpensive but satisfactory housing conditions."

In addition to the economical advantages of panelized camp buildings, which cannot be disregarded, the experience records of the past five years have established the fact that this type of temporary building is more sturdy than the conventional "built-in-place" type. The proof of this has been established beyond doubt by ordeal. Throughout the cyclone and hurricane belts of the country, hundreds of camps have been subjected to winds and freakish storms of high intensities. There are numerous recorded instances of portable structures, with men inside, having been lifted by wind off foundation posts with absolutely no resultant damage except for the labor incidental to dismantling and re-erecting on foundations.

A standard 200-man camp composed of twenty-five buildings of various types, but all based on panels of the same dimensions, costs approximately \$19,000 for material. The average total cost of such a group, including erection, inspection and field superintendence, has been around \$24,000, while the final cost of an entire camp, including all exterior utilities, has been in the neighborhood of \$28,000.

The cost of dismantling, loading, transporting, unloading and re-erecting a camp unit, including the drilling of a new well, pump, water tank, electrical distribution system and waste disposal plant, has been around \$6,500, or less than twenty-five per cent of the original cost. The simplicity of the buildings has permitted the use of enrollee labor in both original construction and the moving of camps.

The successful completion of the CCC building program suggests interesting possibilities for the extension of the panelized system for other housing needs. For example, the over-worked farms of many regions of the South and Southwest have long been notorious for dilapidated tenant houses and farm structures. It is entirely practicable to replace tenant shacks with cottages, twenty feet wide and from twenty to forty feet long, built of standard panelized camp buildings, and dressed up by the addition of a prefabricated panelized porch and shutters and a coat of paint. This would improve both living conditions and appearances at a cost well within the means of the occupants.

(Continuing on page 528)



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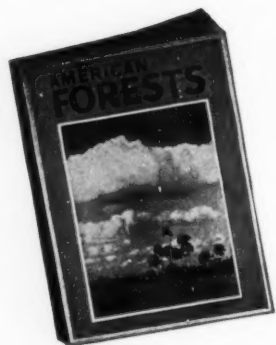


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(SEE PAGE 525)

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New England Hurricane Lumber Sale

THE sale of 425,000,000 board feet of softwood lumber salvaged by the government following the New England hurricane of September, 1938, was announced on September 26 by the United States Forest Service. The Service has been administering the timber salvage program through the Northeastern Timber Salvage Administration, an operating division of the Federal Surplus Commodities Corporation.

The sale, covering lumber already sawn and lumber to be sawn from logs still stored in ponds in the six New England States, was made to the Eastern Pine Corporation, of which Harry Joseph of Chicago, Illinois, is president, and David M. Osborne of Boston, Massachusetts, is vice-president and sales manager. Mr. Osborne

of the scheduled prices for logs, and it was agreed that if the lumber could be sold at prices which would liquidate the government's investment, which was financed by the Disaster Loan Corporation, any surplus would be turned over to them. This commitment is protected under the terms of the sale.

Forest Service officials said that other factors considered in negotiating the sale included the national defense program and the needs of the industries in New England. The possibilities of sale direct to national defense agencies were considered with the Disaster Loan Corporation, the War and Navy Departments, and the National Defense Advisory Commission. It was finally decided, the Forest Service stated, that the sale to the Eastern Pine



Earle H. Clapp, acting chief of the Forest Service, signing hurricane lumber sale agreement. In center, is Harry Joseph, president of the Eastern Pine Sales Corporation, which purchased the timber; at left, is Earl S. Pierce, acting chief of the branch of State and Private Forestry, Forest Service

will direct the Corporation's task of remanufacturing, finishing and marketing the lumber.

The contract provides for the orderly marketing of the lumber over a period of four and a quarter years, with minimum amounts to be taken each quarter. It is stipulated that the price to be paid the government for the lumber shall be adjusted by the Timber Salvage Administration to its actual market value every ninety days throughout the life of the agreement, thus insuring that the government will receive full market value. Forest Service officials estimate the present market value of the lumber at from \$8,000,000 to \$10,000,000.

This price readjustment feature is of special interest to New England farmers and others whose timberlands were damaged by the hurricane. At the time the timber salvage project was undertaken, the land owners were paid ninety per cent

Sales Corporation would be most advantageous.

To meet specific requirements the defense agencies must have finished lumber of specified grades and sizes. The salvage lumber has been or will be sawn but has not been finished or remanufactured. To do this the Salvage Administration would have to go into an extensive finishing and remanufacturing business which would require large planing mill facilities and storage sheds, and the setting up of sales and traffic organizations.

A substantial volume of logs has been reserved from the present sale to serve as a source of raw material for the many long-established New England woodworking plants which because of the hurricane damage would otherwise be seriously short of a timber supply. This reserve supply of logs will enable the mills to run more steadily, thus contributing to continued employment in the communities affected.

READERS' FORUM

LAMENT TO THE ST. JOE BURN

SIR: Enclosed you will find twenty-one lines of verse titled "Lament to the St. Joe Burn," which may or may not be poetry but which nevertheless gives something of the sentiments of anyone who gets a good look at what is called, sarcastically, the "St. Joe National Burn" in the Idaho Panhandle.

Somewhere in your files you probably have the whole story of how North Idaho's 1910 fire roared along a thirty-mile front for upward of 100 miles and how its smoke snuffed out the lives of around 100 fighters. Cemetery Ridge, which lies along the Joe Divide, is supposed to be where a number of those men died. Fires have repeatedly gutted portions of the region, discouraging new growth. Tall snags still bristle along the ridges.

A woodsman stood on the Joe Divide
And clenched a sweaty hand,
As he looked on rows of naked hills,
The burn of a timber stand,
And said:

Damn these white and ghostly spears
Which gleam against the sun,
These skeletons of thirty years
Which tumble one by one!

Give back these hills the tall, cool pine
With cone and needled bough
Like countless ones I used to find—
All burned and rotting now.

Yon Sapling rises from its bed
In prayer for rain and sun;
Pray God no blaze may crush its head
When growth is just begun.

I pray the prayer of a hundred men
Who fought to quell the flame
And died beneath its roaring din
To give this ridge a name.

—Noel A. Wilson, Kellogg, Idaho.

MORE ABOUT WHITE BIRCH

SIR: I wish that I might offer something constructive in the way of information on control of the Bronze Birch Borer, which is one of the most destructive shade tree insects we have. Once a birch tree is attacked by this insect it almost invariably dies within a few years. The bronze colored beetles appear in early June, and feed for a short time on the tender leaves of poplar, willow, and

birch. They then lay their eggs in the crevices of the bark of small branches on the birch. Upon hatching, the larvae burrow just beneath the bark, zigzagging down and crosswise shutting off the flow of sap. They feed until about the first of October. The following spring they emerge as beetles, usually from the trunk.

Various methods of control have been tried, such as spraying the foliage, feeding the tree to keep it thrifty, and injection of chemicals into the sapwood. None of these methods have given control.

Birch growing in groves or clumps seems fairly immune. Trees growing in open stands or as individual specimen trees are particularly subject to attack. —H. B. Peirson, State Entomologist, Augusta, Maine.

BETTER AS CHICKEN FEED

SIR: I bring to your attention the Japanese beetle and its ultimate effect upon vegetation in general and more in particular upon our shade trees.

I have been thinking seriously of the consequences of this menace. I have done considerable in a small way capturing beetles during the past five years and have doubtless caught well on to 100,000 and more in that time—to feed to the poultry at this place. Chickens love beetles and swallow huge numbers with us and that is a first class egg producing diet. Try it sometime. Wish you could give this idea in forestry a prominent location.—Dr. Henry H. Covell, Bedminster, New Jersey.



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HARDY AS AN OAK

By FRANK A. WAUGH

IT is full time someone started a campaign for planting oak trees, especially our beautiful and highly competent native species. There are several good reasons why we should follow the old motto and do it now.

One reason is that with "welfare work" going on in every community, tree cutting has been conspicuous in the program; it now behooves us to replace some of the trees removed. Disease and insect damage have all the while been taking their appointed toll; perhaps more than the usual draft during recent years. Just at present our elm trees are threatened with sweeping disaster, some hundreds having already fallen before the virulent Dutch elm disease.

Now the oaks will come nearer to replacing the elms than anything else in the whole catalog. Moreover there is a distressing shortage of oaks from the outset owing to the reluctance of planters to use them on streets and in home grounds. This prejudice has two grounds: first a slightly higher first cost and second a sad misapprehension as to their rate of growth. The popular opinion is that the oaks grow with almost geological slowness, like the continents and the mountain ranges. Some of them are in fact deliberate and obstinate enough, the well known and well-beloved white oak being a fair example. But there are other good species which grow as fast as anyone could wish. The pin oak, to take the best example, will grow fully as rapidly as the maple or the elm. Other species of equal speed are the common red oak and the less known scarlet oak. These are all good trees. Indeed they are among the very best on a continent noted for its arboreal wealth.

These facts are not newly discovered, either. Back in 1866 Robert Morris Copeland wrote a solid and useful book on "Country Life" in which he told the

truth, saying: "The American oaks are particularly fine as a family and as individuals. When properly managed in the nursery they are easily grown, and quickly, notwithstanding the general opinion to the contrary. I hope to see the time when they shall be largely used as a roadside tree in our country towns." Every landscape architect and tree expert the country over knows these facts, and it is a pity that popular ignorance has so long stood in the way of better plantings.

One or two practical points in the mismanagement of trees have contributed to the common prejudice. Most effective is the popular practice of raping trees from the forest or the pastures or from old fence-rows for street and home-yard furnishing. This is bad technique, even

with elms and maples which will submit to almost any abuse. But the oaks, which naturally send their roots deeper and more widely afield, cannot be handled in this crude manner with equal success. However, when the nurseryman grows his oak seedlings in good, deep, well tilled soil; and especially if he root-prunes them at times, the young trees at transplanting age have plenty of good fibrous roots which can be saved and which will quickly re-establish the trees in their new homes. The tops are also more symmetrical and will develop much more satisfactorily. The nurseries do not generally carry a long list of oak species in stock, but the three best varieties, viz.: the pin oak, scarlet oak and red oak, named above, are widely available. Some establishments which make a business of catering to the best



Oaks, — hardy and beautiful — on a roadside in Massachusetts

trade, keep in their nursery rows considerable numbers of good specimens, sometimes in fairly large sizes. In other words anyone can buy good young transplantable oak trees if he has the sense and the dollars to do it. And the demands on his pocketbook will not be alarming, though oaks should always cost a little more than elms and maples since they are harder to propagate.

Reference has already been made to the pin oak. This tree deserves more than a passing word of praise. Besides having the accommodating habit of rapid growth, it has every claim to beauty. The trunk is straight and strong, the branching is thick and symmetrical, so that practically no pruning is required; the foliage is abundant, rich and glossy during the summer and gloriously red and brown after frost—in fact long after frost, for the pin oak, like several of its congeners, holds its leaves for weeks after most deciduous trees are bare. This species is better known, in the middle and eastern states, than any other, and is on public exhibition in many beautiful lawn specimens and fine street plantings.

The scarlet oak grows native throughout the northeastern states, up into Canada and as far west as Illinois, thus it ought to be widely available. It is a fairly large tree of good comely form; the glossy leaves are finely cut and in the autumn they take on a glorious color. It is well adapted to general planting in parks and on home grounds.

However, more persons probably know the native red oak. It grows rapidly and makes a large effective tree, though more irregular and open of head than the pin oak. It also has the defect of being heavily attacked by the twig borer, which sometimes does extensive damage in late summer. Nevertheless it is a large and noble tree and one which need not be ashamed in any company.

This by no means exhausts the list. Gray's indispensable book on botany lists twenty-two species, exclusive of local varieties; and a good nursery catalog might include a dozen. There is the white oak, greatly admired where it has a century to develop. This is the one, more than any other, responsible for the story about the oaks growing so slowly. Besides this drawback of its slowness, it is very difficult to transplant so that no one likes to struggle with it. However, there is also the yellow oak, a fairly good sort and amenable to argument; also the chestnut oak, which makes a beautiful tree and can be managed. In our own garden we have a specimen of the swamp white oak planted there about forty years ago and now a splendid, wide-spreading admirable tree. This kind is well worth planting. In the middle and southern states the shingle oak and the willow oak are very attractive sorts, though I do not know how well they submit to the operations of the horticulturist.

As a matter of garden knowledge, much more study ought to be given to the whole genus of oaks. There is much yet to be learned. In all probability a little conscientious investigation and a bit of skillful handling would reveal still greater possibilities in the growing of these magnificent trees in all parts of the country. While for the present it is important to act on the knowledge we already have and especially on certain fully-established principles, viz.:

First, the oaks are amongst our best native trees.

Second, several of the species are notably adapted to park and garden planting, and it is important to choose the eligible sorts.

Third, they are easily transplanted if good trees are taken from a good nursery. They often fail when dug from the wild.

Fourth, contrary to popular notion, they grow as rapidly as any good tree.

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PICTURING MIRACLES OF PLANT AND ANIMAL LIFE, by Arthur C. Pillsbury. Published by J. B. Lippincott Company, Philadelphia. 236 pages, ills. Price \$3.00.

This is a photographic study of the many miracles of plant and animal life which the author has captured by use of lapse-time plant photography, x-ray motion pictures, technicolor, and polarized light. The amateur photographer, as well as the botanist, will find it an interesting handbook. Mr. Pillsbury has devoted separate chapters to the different types of photography which he employs, describing equipment used and giving instructions on how to make the pictures. Particularly interesting is the discussion of under-sea photography.

The book should be valuable to those who would follow the wonders of botanical life to the minutest detail.

TREES AND SHRUBS FOR LANDSCAPE EFFECTS, by Marian Cruger Coffin. Published by Charles Scribner's Sons, New York City. 369 pages, ills. Price \$3.00.

One of America's foremost landscape architects gives here the fruit of many years of active professional work, in a book to inspire and inform the plant enthusiast bent on solving his own landscape problems. The creation of beauty and harmonious surroundings, the sense of restfulness and permanence so greatly to be desired is accomplished by following Nature's lead and placing the right plant—be it tree or shrub—in the right place. All these factors are discussed delightfully in this book, richly illustrated with beautiful photographs.

EDIBLE WILD PLANTS, by Oliver Perry Medsger. Published by The Macmillan Company, New York City. 323 pages, ills. Introduction by Ernest Thompson Seton. Price \$3.50.

As prophesied by Ernest Thompson Seton in the introduction this book is "the key to the woods." Professor Medsger has gathered over a period of three decades information which should prove of great value to those who roam the outdoors and experience the joy of gathering and eating edible wild plants. Besides giving detailed descriptions of a wide variety of edible wild plants found in this country, the author tells us how to prepare different plants before eating.

A supplement to the book contains a comprehensive list of edible plants in different sections of the United States.

INDIANS OF THE UNITED STATES, by Dr. Clark Wissler. Published by Doubleday, Doran and Co., New York City. 319 pages, ills. Price \$3.75.

Ten thousand years before 1492 the first Indians crossed from Siberia to Alaska, and this book—an illuminating history of these ten thousand years—is an interpretative picture of the Indians of the United States from their first known record to the present day. Dr. Wissler, who is a world authority on the American Indian, is dean of the scientific staff and curator of anthropology of the American

NEW BOOKS and OTHER PUBLICATIONS

A list of Selected Books on Forestry and related fields of Conservation is available to members of The American Forestry Association on request.

Museum of Natural History and this book is the first in a special science series to be known as The American Museum of Natural History Science Series, to comprise many volumes. Dr. Wissler does not end this interpretation with the humiliating subjugation of the Indians by white men, but describes with feeling and understanding their present lives, their outstanding character and dignity, their unique contribution to American culture and their possible role in the future of America.

TIMBER, ITS STRUCTURE AND PROPERTIES, by H. E. Desch. Published by The Macmillan Company, New York. 169 pages. Illustrated. Price, \$4.40.

A wealth of accurate information concerning the structure, properties and treatment of many kinds of wood, presented in simple, concise language. Will appeal in particular to all who are concerned in the buying, storage, selling and use of timber. Identification of timbers, weight, strength, moisture, seasoning, softwood and hardwood tissues, and defects in timber are but a few of the subjects dealt with in a thoroughly comprehensive manner.

AN OUTLINE OF FORESTRY, by Thomas Thomson and M. R. K. Jerram. Nordemann Publishing Company, Inc., New York. 208 pages. Illustrated. Price, \$2.25.

Dealing with forest practices and policies of Great Britain, this book is not intended to supply the theoretical knowledge required for the practice of forestry. Its main object, instead, is to provide for students on their initial approach to the subject, an explanatory outline of the kind of knowledge they will have to acquire. Yet, it does more than that—it presents an informative and interesting picture of the practice of silviculture, forest protection, forest valuation and finance, and forest utilization in the British Empire.

The publications listed below must be ordered direct from the addresses as given and not through the Association.

Food Habits of a Group of Shorebirds: Woodcock, Snipe Knot, and Dowitcher, by Charles C. Sperry. Wildlife Research Bull. 1 of the Bureau of Biological Survey, U. S. Dept. of the Interior. Supt. of Documents, Washington, D. C. Price 25 cents.

Community Forests in Pennsylvania. Pennsylvania Government Administration Service Pamphlet No. 3. Blanchard Hall, 36th & Walnut St., Phila., Pa. *Some Principles of Accelerated Stream and Valley Sedimentation*, by Stafford C. Happ, Gordon Rittenhouse and G. C. Dobson. Tech. Bull. 695, Soil Conservation Service, Dept. of Agr. Supt. of Docs., Wash., D. C., Price 75 cents.

Constructive Tree-Study Lessons, by Edith R. Mosher. A series of five graded books of nature study. Published by George Wahr, Ann Arbor, Michigan. Price 35 cents each per copy—complete set, with suggestions to teachers, \$1.50. *Caribbean National Forest of Puerto Rico*. Southern Region of the Forest Service, U. S. Dept. of Agr., Govt. Printing Office, Wash., D. C.

Problems of Private Forestry in the Douglas Fir Region, by Bruce Hoffman. Published by the Charles Lathrop Pack Forestry Foundation, 1214 Sixteenth Street, Wash., D. C.

Establishment of Shortleaf Pine in the Missouri Ozarks Following Seed Bed Preparation and Release, by J. Milton Attridge and Franklin G. Liming. Tech. Note 10, Central States For. Exp. Sta., Columbus, Ohio.

Conservation Excursions, by Effie G. Bathurst. Bull. 1939 No. 13, Office of Education, Federal Security Agency. Supt. of Docs., Wash., D. C., Price 15 cents.

Restoring Colorado's Range and Abandoned Crop Lands, by E. W. Nelson and W. O. Shepherd. Bull. 459, Colorado State College, Fort Collins, Colo.

Ontario Game and Fisheries Laws, 1940. Department of Game and Fisheries, Toronto, Toronto, Canada.

Buckley Memory Forest. Special Bulletin State Normal School, Oneonta, N. Y.

On This Rock—commemorating the founding of Bluffton College, Bluffton, Ohio. Address by Dr. Wilson Compton.

The Northern Great Plains. By The National Resources Planning Board. Supt. of Docs., Wash., D. C., Price 10 cents.

Cost of Producing Pulpwood on Farm Woodlands of the Upper Connecticut River Valley, by Victor S. Jensen. Northeastern For. Exp. Sta., New Haven, Connecticut.

Experimental Girdling in Mixedwood Stands in New Brunswick, by W. B. M. Clarke. Lands, Parks and Forests Branch of the Dept. of Mines and Resources, Ottawa, Can.

Hardy Ferns and Their Culture, edited by Carol H. Woodward. Published by the New York Botanical Garden, Bronx Park, N. Y.

AMERICAN FORESTS

Conservation Features Outdoor Clubs Meeting

CONSERVATION held a major place in the deliberations of the Federation of Western Outdoor Clubs, composed of twenty-seven outdoor organizations on the Pacific Coast, at its Ninth Annual Meeting held in Oregon in September. The clubs took a united stand on numerous questions affecting the administration of public lands, both state and national. The expansion of national parks in the West came in for prolonged discussion. The present trend of expansion was questioned, and a committee, composed of Fairman B. Lee of Seattle, Arthur Blake of San Francisco, and Paul Thiess of Longview, Washington, was appointed as a committee representing the Federation to study the park movement and recommend standards which should guide the extension and development of national parks.

The Federation also went on record as opposed to the enactment of H. R. 9351 and S. 3827, companion bills now pending in Congress. These bills would amend the Antiquities Act of June 8, 1906, by repealing the portion under which national monuments are established and by providing for the creation of national recreational areas under the administration of the National Park Service. The amendment would further authorize the Secre-

tary of the Interior to permit hunting, prospecting, and mining in such areas.

As respects mining in the national forests, the Federation asserted that under existing mining laws non-mineral lands are being claimed under the pretext of mining and used in ways injurious to the scenic values and the public use of the national forests. A resolution was passed urging amendment of the mining laws by Congress to provide that all mining patents hereafter issued shall restrict grants of surface rights to use for actual mining purposes.

The Federation also went on record as favoring continued handling of recreation on national forests by the Forest Service. Endorsement was given to western states acquiring tax delinquent logged-off lands for the creation of recreational parks and primitive areas and to continuation of the ranger naturalist service provided by the National Park Service.

Edward J. Hughes of the Mazamas, Portland, Oregon, was elected president of the Federation for the ensuing year. Phil J. Bernays of the Sierra Club, Los Angeles, was elected vice-president for California; for Oregon, Herman W. Erren of the Trails Club, Portland; and for Washington, Ben C. Mooers of The Mountaineers, Seattle.

Relief for Finnish Foresters

IN response to the appeal published in the August number of AMERICAN FORESTS for funds to help relieve distress among Finnish foresters resulting from the late Finnish-Russian war, The American Forestry Association has received the following contributions up to the time this issue went to press:

E. H. Bangs, Riverside, Ill.	\$5.00
Ovid Butler, Washington, D. C.	10.00
Miss Hortense Davis, Pass Christian, Miss.	1.00
Finch, Pruynt and Co., Inc., Glen Falls, N. Y.	100.00
John D. Guthrie, Washington, D. C.	5.00
R. S. Kellogg, New York, N. Y.	5.00
Joseph Kittredge, Berkeley, Calif.	10.00
Barrington Moore, Corfe, Taunton, England	10.00
A similar appeal was made by the Society of American Foresters through its publication <i>The Journal of Forestry</i> , and through the Society the following additional contributions have been made, making the total collections to date \$190.00:	
J. Curtiss Ball, Richmond, Va.	\$2.00
Henry Clepper, Washington, D. C.	1.00
Hugh Fleming, Jr., Washington, D. C.	1.00

John D. Guthrie, Washington, D. C.	5.00
R. Clifford Hall, Washington, D. C.	10.00
Austin F. Hawes, Hartford, Conn.	10.00
Ralph S. Hosmer, Ithaca, N. Y.	10.00
Ivan H. Jones, College Station, Texas	5.00

These funds have been sent to Professor Eino Saari of the University of Helsinki to be turned over to the Association of Finnish Foresters, which will act as custodian of the fund. During the war with Russia, Finnish foresters played a prominent part, particularly in the ski troops. Approximately ten per cent of the country's foresters were killed and a still larger number were wounded and permanently disabled. Many of them lost not only the ability to work but likewise their homes and property.

The American appeal for contributions is still open, because the need will continue great particularly during the coming winter. The Finnish Government is doing all it can to meet its many relief problems, but its resources are limited. Contributions may be sent either to the American Forestry Association, 919 17th St., Washington, D. C., or the Society of American Foresters, Mills Bldg., Washington, D. C.

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FORESTRY IN CONGRESS

ALTHOUGH Congress has been in session all summer, little action has been taken on bills pertaining to conservation. Most of the pending bills previously reported in this column are still marking time on national defense legislation, and with Congress recessing over the election, the outlook is not favorable for them being acted upon at this session of Congress.

New Forest Bill Introduced

On October 7, Representative Pierce, of Oregon, added to the miscellaneous grist of pending measures a bill, H. R. 10622, of special importance in that it deals with one of the most important forest problems in the country—the destructive and premature liquidation of privately owned timber in the Pacific Northwest. The bill would commit Congress to the proposition that the forests of Oregon and Washington are indispensable to the future welfare of the country and that premature destruction is imminent and will seriously impair the nation's future timber supply and create widespread economic distress and unemployment. Current and prospective liquidation is due primarily, it asserts, to the transfer "to private ownership of timber greatly in excess of the volume that can be utilized by private owners in sound and orderly manner."

To alleviate the conditions prevailing and to make possible the establishment of a sound and permanent forest economy in the Pacific Northwest, the bill would provide that:

(1) The Secretary of Agriculture be authorized to purchase and administer as national forests an estimated fifty-five billion board feet of privately owned timber and lands on the western slope and an estimated seven billion board feet on the eastern slope of the Cascade range in Oregon and Washington, subject to the provision that such purchases will give preference to timber susceptible to sustained yield management and which is now threatened with premature liquidation. Sustained yield management of itself or in combination with other ownerships is contemplated.

(2) If the states concerned will legally obligate themselves to administer the lands and timber acquired on a sustained yield basis, the Secretary may transfer them to state jurisdiction subject to stated conditions.

(3) To reimburse local counties for loss of taxes on land and timber acquired under the act, the states would be paid annually, from receipts of all national forests in Oregon and Washington, an amount equivalent to one per cent of the appraised value of the acquired lands at

date of purchase. Use of these payments by the state is not restricted to public schools and public roads but is left to the discretion of the state legislatures.

Cooperative Agreements Provided

(4) The Secretary of Agriculture would be authorized to enter into cooperative agreements with public and private owners of other timber lands in establishing economic forest units for permanent sustained yield management, and such agreements would be binding upon all owners to comply with forest practices approved by the Secretary of Agriculture. When deemed in the public interest, the Secretary could furnish co-operating owners or dependent plants with national forest timber without competitive bidding at prices not less than duly appraised values, said values to be revised from time to time during the life of an agreement.

(5) The Secretary may call upon the State Planning Boards of Oregon and Washington for advice and counsel in order to coordinate the program contemplated by the bill with other state programs of land and resource management.

Would Authorize \$60,000,000 Loan

(6) Funds to the extent of \$60,000,000, expendable until June 30, 1946, would be made available through authorization to the Secretary of Agriculture to borrow that amount from the Reconstruction Finance Corporation at three per cent interest, loans and interest to be repaid within forty years from receipts derived from all national forests in Oregon and Washington. Should these receipts be insufficient, the balance would be made up from the Federal Treasury.

In September, the Senate took up and passed several bills which have been on the conservation waiting list, among them S. 3869, which provides that twenty-five per cent of the revenue derived from national parks shall be paid to the states for the benefit of the counties in which the parks are located, and S. 2576 which provides that the receipts from migratory bird and wildlife refuges may be spent by the Biological Survey for the protection of those areas. Neither of these bills has yet been acted upon.

Two Park Bills Draw Fire

The Senate also passed on September 30, Senator Hayden's two bills—S. 4038 and S. 4130. The former changes the name of the Organ Pipe Cactus National Monument to the Organ Pipe Cactus National Recreational Area and opens the area to mining. The latter would provide for the creation of a Coronado International Monument in Arizona open

to grazing, prospecting, and mining. Both of these bills have drawn the fire of the National Parks Association which charges that they "threaten the integrity of the National Monument System." As regards S. 4038, the Association, pointing out that the area involved, according to the Interior Department, has been prospected since the Spanish era of southwestern occupation without the finding of any important minerals, declares that the bill is "an indefensible attempt to allow commercial utilization of natural resources in an area originally set aside for complete preservation as a national monument. The passage of this bill by Congress would create a precedent for changing all national monuments into national recreation areas in order to allow mining and other commercial uses therein. Such a precedent might conceivably be the forerunner of a complete collapse of the National Monument System."

National Forests for National Defense

Early in October, Senator Stewart and Representative Kefauver, both of Tennessee, introduced bills in the Senate and House to give the President authority to transfer jurisdiction over any national forest or national park land to the War or Navy Departments for national defense use. The authority would be temporary and would terminate with the national defense emergency. That such legislation is not essential appears evident from the fact that the Department of Agriculture already has made available to the War Department one national forest in whole and parts of two others for the use of the War Department in its training program. All of the Choctawatchee National Forest in Florida is now being used as a bombing training area and parts of the DeSota National Forest in Mississippi and the Los Padres National Forest in California are being set aside as War Department training grounds.

Revised Edition of Standardized Plant Names

THE American Joint Committee on Horticultural Nomenclature through its secretary, Harlan P. Kelsey, has announced that a revised and enlarged edition of *Standardized Plant Names* will be issued shortly. The new volume is the result of months of work by the committee with the help of over two hundred collaborators, among whom were Professor Alfred Rehder of the Arnold Arboretum; B. Y. Morrison, Chief, Bureau of Plant Exploration and Introduction, U. S. Department of Agriculture; and specialists from other branches of the Agriculture and Interior Departments; the Smithsonian Institution, state agricultural experiment stations, and various botanical gardens throughout the country.

The revised edition will represent a

monumental piece of work and will cover the whole field of plant and horticultural nomenclature with a comprehensiveness that has never been attained heretofore. In the widened fields covered by the new edition are included lumber trade names, drugs, forage plant, cereals, and economic plants of many categories. In short, the new *Standardized Plant Names* departs from the rather narrow viewpoint of horticultural interest alone, which characterized the first edition, and gives consideration to all plants and plant products of interest and use to America, including trees. The new volume is being printed by and will be available from the Macmillan Company, January 1. Its price will be \$7.00. An announcement has been made that a pre-publication price of \$6.00 will be given those who order in advance.

PAN-AMERICAN WILDLIFE PACT

The Pan-American convention on Nature Protection and Wildlife Preservation in the Western Hemisphere was signed October 12 at Washington, D. C., by the United States and seven Latin-American republics.

The new pact would bind the signatories to create national parks, wilderness reserves and wildlife sanctuaries in their territory. The governments pledge themselves to preserve natural scenery, striking geological formations and regions containing objects of esthetic, scientific, or historic interest. The convention also urges them to grant permits for the killing or capturing of certain wildlife species to scientific expeditions only.

Signed by the United States, Cuba, El Salvador, Nicaragua, Peru, Venezuela, Ecuador and the Dominican Republic, the agreement is open for the signature of all other countries in the Western Hemisphere.

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Trail Riders Have Successful Year

(Continued from page 511)

Forestry and Conservation, University of Michigan, represented The American Forestry Association; medical officer was Dr. Paul H. Harmon, of the Robert Packer Hospital, Sayre, Pennsylvania; Claude W. Gillespie, of Stanley, Idaho, was in charge of packing.

Entering the wilderness at beautiful Pettit Lake, this party climbed through rugged country to the Payette River, then into the magnificent top country of the Sawtooth, the heart of the wilderness, and on to four-mile-long Redfish Lake and the White Cloud Mountains—trails of rare beauty.

The first of the pioneering trips for 1940 got under way from Bozeman, Montana, on July 18. For thirteen days this group of twenty-six riders blazed the way into the heart of the Spanish Peaks-Hilgard Wilderness—a primitive country of

Montpelier, Vermont; Mrs. George P. and Miss E. Virginia Orr, and Miss Estelle L. Sharp, Berwyn, Pennsylvania; Frank H. Terrell, Kansas City, Missouri; Dean S. Fleming, Minneapolis; Mr. and Mrs. O. W. Fisher, Jersey City; Miss Lillian Mantefel, Milwaukee; Miss Mary Ellen Rudolphi, Detroit; Miss Elizabeth W. Kingsbury, Auburndale, Massachusetts; and Miss Katherine Smith, Birmingham, Michigan. Ovid Butler, executive secretary, represented The American Forestry Association; medical officer was Dr. I. H. Chilcott, Chicago; Walter Latta, Bozeman, was in charge of packing.

The expedition to the storied Gila Wilderness left Silver City, New Mexico, on July 29. For thirteen days this party of seventeen explored winding canyons, timbered mesas and the colorful mountain peaks of the famous Mogollon Range.



These riders blazed new trails in the Flat Tops Wilderness of Colorado

high mountain peaks, sparkling streams, and endless lakes, many of which afford the finest fishing to be found in continental United States. With the remote Hilgard region as its main objective, the party entered the wilderness over Hell-roaring Trail, made its way to the Spanish and Taylor peaks, then finally into the extremely rugged and little known Hilgard country.

Veteran Trail Riders with this group were David T. Beals, Kansas City, Missouri; William M. Weis, San Diego, California; Miss Flora Leavitt, New York; Dr. and Mrs. Howard A. Lippincott, Moorestown, New Jersey; Bruce S. Nichols, Santa Barbara, California; Miss Eleanor G. Crawford, Madison, Wisconsin; Miss Helen K. Glaser, Butler, Pennsylvania; and Miss Helen K. Ketterer, Pittsburgh. With the Trail Riders for the first time were Bertram K. Buxton, Jr., and Henry D. Sharpe, Jr., Providence, Rhode Island; John G. and Miss Helen Anne McClure, Rockford, Illinois; Miss Felisa Jenkins, Baltimore; Miss Margaret Hall,

Veteran Trail Riders in this group were Mrs. Pearl W. Dore, Baltimore; Miss Elizabeth D. Levers, New York; Miss Eunice L. Kingsley, Manhattan, Kansas; David L. Williams, White Plains, New York; and Misses Rose C. White and Margaret B. Peters, Brooklyn. New riders were Miss Martha Anderson, Decatur, Georgia; Mr. and Mrs. William C. Davis, Jr., Norfolk, Virginia; Miss Jane Erskine Williams, White Plains, New York; Mrs. Clement W. and Miss Polly Miller, Wilmington, Delaware; Mrs. Laurel Sabrosky and Miss Jessica Barr, Washington, D. C.; Miss Ruth Closson, Chicago; Miss Katherine Crisp, Buffalo, New York; and Miss Nell Hollinger, San Jose, California. Fred E. Hornaday represented The American Forestry Association; medical officer was Dr. William Arthur Shannon, Washington, D. C.; G. W. Evans, Magdalena, New Mexico, was in charge of packing.

On August 2, nineteen riders gathered at Glenwood Springs, Colorado, for a fourteen-day trip to the high Maroon Bells-Snowmass Wilderness. Three were

veteran Trail Riders—Miss Emma L. Bolzau, West Collingswood, New Jersey; Miss Ella May Ottery, Santa Barbara, California; and Miss Madge M. Young, Philadelphia. First time with the Trail Riders were Dr. and Mrs. S. Bernard Wortis, Harold Cowin, and Mrs. J. S. Reaves, New York; Dr. and Mrs. Homer L. Dodge, Norman, Oklahoma; Miss Pearl V. Turner, Woodland Park, Colorado; Miss Vivienne S. Worley, Denver; Misses Alice V. Slater and Camilla Lilienthal, San Francisco; Miss Emma L. Warager, Brooklyn; Miss Sadie F. Adelson, Washington, D. C.; Robert Goodsell, Short Hills, New Jersey; Miss Anne W. Hazen, Berkeley, California; Miss Eleanor V. Kirkland, Philadelphia; and Miss Vera R. Bassett, Hartford, Connecticut. Professor Shirley W. Allen, of the School of Forestry and Conservation, University of Michigan, represented The American Forestry Association; medical officer was Dr. Charles R. Brown, New York City; Mr. and Mrs. Rich Thomson, Glenwood Springs, were in charge of packing.

Exploring among peaks reaching 14,000 feet above the sea, the Maroon Bells-Snowmass party found some of the most dramatic wilderness country in the Rocky Mountains. From Aspen, the riders made their way to the high Panorama Trail and the Continental Divide before camping at Snowmass Lake, one of the most beautiful natural scenes in America. From here they struck the Crystal River and the trail out of the wilderness.

Just northwest of this rugged country, and separated by the Colorado River, lies the historic Flat Tops Wilderness. Here it was that President Theodore Roosevelt hunted big game, where Zane Grey found material for many of his novels, and where, on August 20, an expedition of the Trail Riders of the Wilderness set out for the first time to follow in their footsteps. Coming together at Glenwood Springs, this party of fifteen blazed trails for fourteen days through country of amazing beauty, first to Trappers Lake, a real gem hidden by the flat peaks of the wilderness, then to Flat Top Mountain, 12,500 feet above sea level, and finally to the great timberline basin at Island Lakes.

Four veteran Trail Riders were with this group—Walter H. Wuerdeman, Cincinnati; Miss Julie Hatch, New York; Miss Charlotte E. Horton, New Haven, Connecticut; and Miss Marian McConkey,

Grove City, Pennsylvania. New Trail Riders were Dr. S. Paul Perry and Miss Jane Perry, Sayre, Pennsylvania; Mr. and Mrs. Edwin H. Krieg, Ridgewood, New Jersey; Miss Clara Nigg, Minneapolis; Elmer J., Frank and George Schnackenberg, Chicago; Miss Helen S. Foster, Princeton, New Jersey; Miss Caroline E. E. Hartwig, Columbia, Missouri; and David MacBain, Lewiston, New York. Erle Kauffman represented The American Forestry Association; medical officer was Dr. Ralph M. Stuck, Denver, Colorado; Mr. and Mrs. Rich Thomson, Glenwood Springs, were in charge of packing.

The final expedition of the year had as its objective the conquest of Mt. Whitney, highest mountain in continental United States. This was achieved on September 3 after twelve days of riding, mostly above timberline, through the most dramatic country and over the highest mountain passes of the California Sierra.

Twenty-two riders made up this party, the third to conquer the wind-swept summit of Mt. Whitney. Veteran Trail Riders among them were Miss Elizabeth Falconer, Cleveland; Bruce S. Nichols, Santa Barbara, California; William J. Schukraft, Chicago; Kingsland Camp, New York; Miss Miriam Houdlette, Melrose, Massachusetts; Miss Dorothy M. Taylor, Redondo Beach, California; Dr. Edward Boller, Alhambra, California; Miss Dorothy D. Decker, Claremont, California; and Miss Margaret Gausewitz, Milwaukee. Riding with the Trail Riders for the first time were Donald Adams, New Haven, Connecticut; John and Richard Alschuler, Winnetka, Illinois; Miss Mora Anderson, Lower Lake, California; Daniel Goldy and Mrs. Paul Manz, Chicago; Mrs. Sarah J. Harris, Woods Hole, Massachusetts; Mr. and Mrs. Clarence Shadel, North Hollywood, California; Miss Mary T. Beutel, Los Angeles; Misses Rose C. Anderson and Marie P. Goeltz, New York; and Miss Ida C. Wied, Evanston, Illinois. Harold A. Browning, of Los Angeles, represented The American Forestry Association; medical officer was Dr. Alfred B. Wilcox, of Santa Barbara, California; Norman B. Livermore, Jr., of San Francisco, was in charge of packing.

This, in brief, is the story of the Trail Riders of the Wilderness for 1940. And even as it is written plans for 1941 are taking shape—to be announced, it is hoped, before Christmas.

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Western Timber Lands

Certified Outdoorsmen

(Continued from page 492)

well rounded program. One who enters the wilderness should know how existing wilderness areas compare with those of the past. He should know how the difficulties of modern wilderness trips and explorations compare with former ones. He should recognize herds of game not as large because of present conditions, but in reference to past abundance. He should be well read in the best books on outdoor America.

He should be safe to leave in the woods. He should understand the causes as well as the means of prevention and control of forest fires; in the advanced grades he should have experience in their suppression. Similarly he should understand all phases of stream pollution, camp sanitation, the use and care of firearms, and finding his way.

A certified outdoorsman should know trees, shrubs, herbaceous plants, birds, animals, fishes and reptiles, and should understand their life histories, their need for conservation, their uses, and the ways in which they may be secured.

He should be adept in wilderness travel according to his region and rank. Horsemanship is important in one place, canoeing or boating in another, skiing or snowshoeing in still another, backpacking in most places. To the Master Outdoorsman many skills are necessary.

He should be skilled in camp and wood-

crafts and know many of the arts which bring comfort, save labor, and create a worthy pride in primitive living.

Properly certified outdoorsmen or those intending to achieve the status would help much in the prevention of forest fires. In many areas they could be given more privileges than those extended beginners; and the beginners in turn could be expected to acquire the abilities giving them similar privileges. With many folk accenting skills we should have less accent on trophies. Game hogs, who can seldom exist without audiences, should find their hearers less appreciative as outdoor objectives change. The certification of outdoorsmen with different ranks should give grown-up objectives and continuing interests to those who successfully completed their Boy and Girl Scout and Campfire Girl programs. Such formal standards should lend added effectiveness to the educational work of both the Forest Service and the National Park Service.

Precedents exist for the certification of citizen ability. The Red Cross certifies able swimmers as junior and senior life guards and as examiners, and gives badges to encourage beginners and to mark the proficient. The National Rifle Association rewards proficiency in rifle and pistol shooting with badges appropriate for marksman, sharpshooter, and expert. Park Naturalist Gregg, attached to the Rocky Mountain National Park, has devised a series of awards to mark the nature study accomplishments of boys between the ages twelve and eighteen.

We should like to preserve as many of our early traditions of pioneering, with all their freedom, as possible; and only by certifying those who are really capable can we permit outdoorsmen on some of our national forests and parks to camp where they will and build fires where they choose.

Who can certify outdoorsmen? Certification can best be done by agencies with fine reputations for integrity, with great knowledge and experience in outdoor living and working, and with widespread organizations having offices and officers in many parts of the country. A survey of existing agencies indicates that permanent employees of the federal Forest Service and National Park Service, and of such state forest and park services as merit the approval of the federal forest and park services, are best qualified to certify outdoorsmen.

The various state forest and park services vary so greatly in excellence, indicated permanency, and organization that only outdoorsmen certified by the better state services could be recognized as meritorious while on trips taken on lands administered by other agencies.

Any land administering agency or organization could certify outdoorsmen, especially for wilderness travel on lands within its own jurisdiction, but a single nation-wide provision for certification created by cooperating agencies would give



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the outdoorsman greater recognition and would grant him more universal privileges.

Who should devise certification standards? The most democratic and efficient procedure would be for qualifications to be chosen by a committee formed of representatives from The American Forestry Association, the American Planning and Civic Association, the American Nature Association, the American Wildlife Institute, the Izaak Walton League, the National Parks Association, the National Wildlife Federation, the Society of American Foresters, the Wilderness Society, and similar organizations including most citizens interested in America's outdoors.

Rolling at the Roleo

(Continued from page 505)

moted the matches since its reorganization in 1937. Its president is George T. Springer of Minneapolis, an enthusiast for roleos and collector of every item that bears on birling. He is trying to find those Calvin Coolidge shoes for his collection.

In 1941, the top-flight birlers of the United States and Canada will flock with sharpened caulks to Gladstone, Michigan, a famous old sawmill town on Michigan's Upper Peninsula, to vie again for the coveted title of "King of the White Waters" and prize money totalling over one thousand dollars. At this event, to be held July 4, 5 and 6, Jimmy Heron of Kelso, Washington, present world's champion, must defend his title, and Miss Mallott will defend hers. The catfoot sport dopsters are already predicting the return of the championship to the Middle States by young Jimmy Running, of Eau Claire, Wisconsin,—the cradle of birling in the Lake States.

Gladstone is an appropriate place for the roleo, as it lies in the heart of country once famous for its pine timber. It is situated on Little Bay de Noquet and the yacht basin is one of the finest to be found on the Great Lakes. In addition to the log birling, there will be a big program of aquatic sports.

At the roleos, nowadays, there are still a few old-timers who enter whether they get wet in the first two seconds or not; such as Billy Beauregard, a Menominee Indian from the Odanah Reserve in Wisconsin, and Joe Madawayosh and Little Billy Girard, whose son, Adolph, ducked his dad in short order last year. Another son, Lowell, tucked away the trick and fancy title, which had been claimed by young Johnny Murray and his brother, Jimmy.

There have been some two-score roleos of national or regional calibre since 1888 and sectional rivalries have brought some confusion to the records, notably because of a series run from 1926 to 1937 at Cloquet whose promoters claimed their birling to be official, but the claim that these matches are official is disputed. The Association credits Wilbur Marx with winning six times in a row from 1926 on, and his claim to being Whitewater King for ten years is good; he has met and wet all the topnotchers save Jimmy Herron and Joe Connors and he is still a threat.

Once chosen, little modification of standards should be required over long periods of time, although provision should be made for them.

Who would pay for it? Those who wish to be certified should pay for the cost of buttons, cards, certificates, and the clerical work involved. Land administering agencies should benefit from the certification of many outdoorsmen, or woodsmen, but the burden of proof as to ability, the cost of supporting statements or affidavits, and the basic cost of the certification should be charged against those who would enjoy the distinction of having their abilities weighed and recognized.

It takes the strength of a long-distance runner in the legs, better balance than a tight-rope walker, the endurance of an Indian, the brains of a fox and the quickness of a bob-cat to top round, rolling timber in these rapid roleos. Out of a field of forty or so who enter there are not more than a half dozen who can stay on a log against another man for more than a minute or two. The best birlers have not stayed dry for more than half an hour against a rival of any sort.

For variety, the trick and fancy experts furnish some thrills which would make Blondin envious. Old Johnny Murray invented the block-turning stunt for jumping-jacks and Bill Delyea built a hollow wooden ball six feet in diameter and learned to sit in a chair on it after revolving the globe at will, half-submerged in water. Johnny Murray used his skill at

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clambering over a three-foot block to good advantage at Ashland, Wis., in 1900. Many expert rivermen were there with their caulked boots to try for prize money and Tom Flemming went to Murray before the drawing for places and said,

"Johnny, we are going to be rolling logs here for a week if we don't get rid of some of these damn' riverhogs. Why, there are at least fifty of 'em here with quilled boots and any one of 'em might be lucky enough to wet one of us regular birlers. Why not take that short log of yours and show 'em what real birling is. It may take the heart out of 'em."

Murray had the boatman take him out with his block and he tipped it end-over-end about forty times while the crowd gaped and cheered. When Murray returned to shore he was greeted by Flemming with a grin.

"It worked, Johnny! While you were out there walking over that short log, I stood by those fellows to see how they'd take it. One of 'em said to the others, 'Holy Old Mackinaw, what chance we got to roll logs with them sort of birlers? Why, that fellow Murray goes right over the ends of 'em. Come on, let's go back home where we belong.' And, Johnny, all of 'em have backed out but the regulars, like Stewart, McElhone and MacDonald and us."

The West Coast pine-pounders from around Kelso, Longview, and other northwestern towns are experts at block-turn-

ing and they are cats on long logs, too, despite the fact that they do most of their river-driving on great Douglas fir and redwood instead of small, corky white pine.

Among the cattiest jacks on long logs or short was Little Billy Girard who was a showman supreme. He could lie flat on his back on a log and get to his feet without going off, turn handsprings, birl all the way round, going under it and coming up—on his feet. Try that one on your dead-head, anchored beside the diving float!

Joe Stauber went circus with a trick of sliding down a chute on roller skates and turning a somersault before hitting the water—but that isn't log-rolling. The leaping lumber-jills are good at the trick stuff sometimes. There were the Thompson sisters, Minnesota misses who used to appear at Lake States roleos in sleek, black tights and birl logs on roller skates, skip rope and play leap-frog and now and then challenge a jack for a spin. The jills are not quite up to beating expert jacks, unless one of the stags forgets the cardinal rule of competitive birling: **NEVER TAKE YOUR EYES OFF YOUR OPPONENT'S FEET.** The jills aren't quite strong enough, but an expert promoter of the roleo game who for more than a score of years has hunted for birlers believes that some of our more powerful modern women swimmers like Gertrude Ederle, Aileen Riggan and Eleanor

Holm might make the grade against men if they could learn to birl.

Roleo is still a he-man sport, with the crown resting firmly on the curly head of Lumberjack Jimmy Herron, but the Lake States birlers who boomed the sport first and most furiously declare that one of them is going to wet Jimmy down in 1941.

There have been only the two champions from the West Coast, perhaps because all the official matches have been held east of the Rockies, and because it's tough riding the rods so far. One old-timer who was at Escanaba last year claimed he had walked bare-footed (to save his birling shoes) two thousand four hundred miles to get there!

The list of champions issued by the National Roleo Association is as follows: 1888—Ab Thompson; 1892—Johnny Murray; 1898—Tom Flemming; 1900—Al Stewart; 1901—Tom McElhone; 1902—Tom Flemming; 1914—William Delyea; 1915—Ed Oleson; 1924-1925—Joe Mada-wayosh; 1926—William Girard; 1927-1936—Wilbur Marx; 1937—Joe Connor; 1938—Jimmy Herron.

The winners in the Cloquet matches were as follows: 1926, William Girard; 1928, William Delyea; 1929, Lawrence Bergeron; 1930-31-33, Wilbur Marx; 1934, Elmer H. Swanson; 1936, Walter Swanson; 1937, Jay Swanson. The last two Swansons are brothers, hailing from Brinnon, Washington.

Trees That Temper Hot Winds

(Continued from page 489)

windward side contains wild plum, choke-cherry, Russian olive and mulberry trees set four feet apart; the second row is made up of pine and cedar also four feet apart; the third, fourth and fifth rows consist of American elm, ash, hackberry, walnut, oak, catalpa and honey locusts; the sixth, seventh and eighth rows contain the fast growing cottonwood and Chinese elm set ten feet apart; the ninth row is usually American elm and the tenth row contains the same species as the first.

The rows of trees are spaced ten feet apart so that the ordinary cultivating equipment on the farm will do the work between the rows. Some hand hoeing is essential close to the trees and cultivation is kept up until the trees shade the ground. Farmers have taken care of their windbreaks so diligently that it is estimated between ninety and ninety-five per cent of all plantings will develop into effective windbreaks. Of the total of 11,000 miles planted in the six-state area less than 225 miles have been abandoned and much of this was experimental work.

Farmers served as guides to the hundreds of visitors who toured the twelve-county area and pointed out the zone of influence of the long rows of windbreaks. This was particularly noticeable in fields of small grain planted to the leeward of the trees which had attained a height of twenty or thirty feet. Here the stand of

grain over a space six hundred to nine hundred feet out from the trees was normal and prospects for a crop excellent. Beyond this zone of influence the stand was thin, short and referred to as "not worth cutting."

The terms "zone of influence" and "area of protection" are analogous and vary directly with the height, density and conformation of the windbreak. After striking a belt of trees of ideal density and shape the wind does not again attain its initial velocity until it reaches a distance beyond the windbreak equal to about fifty times the height of the trees. However considering all purposes and average wind velocities it has been established that the windbreaks protect the soil on the leeward side for a distance equal to thirty times the height.

The manner in which the recently planted eleven million trees are aiding in the rehabilitation of land which a short time ago was considered well nigh worthless was demonstrated time and again during a hundred mile tour of the region. On one side of the road might be seen a farm which did not have a windbreak or one which had been planted but a short time. The unprotected land was filled with sand blowouts, and nearly devoid of vegetation. Even the light wind which was blowing whipped fine particles of sand into the faces of the people who passed along ad-

joining roads. Protected fields presented a different picture. They were green with growing crops of oats, rye, wheat and corn.

A few years ago riflemen under order of the United States government shot hundreds of head of cattle which had been declared unfit and unable to withstand the ravages of the drouth in the area. Cattle raising has always been a major activity of the farmers in central and western Nebraska and with the destruction of their herds complete, they could see little hope in the future. But it's different now. Large herds of feeder cattle dot the level land and things are once again as they should be.

"There's my money and my family's future," commented one operator pointing to his herd of Hereford steers. "Five years ago I was down to my last chip when I decided to gamble on trees. It's the best bet I ever made."

As one caravan of cars approached a windbreak which had been planted in 1935, the farmer guide suggested the visitors watch for a flock of a hundred or more pheasants which were known to be nesting in the windbreak.

"You'll see how game birds flock to protected areas," he said. "The State Game Commission posted this county as a closed area to hunters for several years following the dust storms. There was no

food or cover for pheasants, quail or prairie chicken. After we planted the trees we stocked 500 pheasants in the county and the Biological Survey count this spring indicates we have more than 5,000 mature birds. This year's hatch will more than double that number."

Still another farmer commented on the possibility of deer being placed in the area. "In the county south of us," he said, "the Game Commission placed fifty deer this spring and they're doing all right. We expect to have some here next year. You know," he continued, smiling, "this used to be the hunting ground of the Omaha and Pawnee Indians. Seventy-five years ago buffalo and deer were plentiful and while we don't expect to have buffalo again, don't be surprised to see road signs warning drivers along the highways to 'Watch Out for Deer.'"

While most of the windbreaks in the area have been planted on a cooperative basis, private initiative has received measureless impetus. Dozens of farmers have purchased trees under provisions of the Clarke-McNary Act, planted and cared for their own windbreaks. The interest in trees has become so great in Nebraska that it is frequently referred to as the "Tree Planter State." This interest is indicated by the mass of applications for windbreaks which literally swamp the offices of the Prairie State Forestry Project. More than 800 miles of plantings are being made in Nebraska in 1940, nearly three hundred in the twelve-county area where Forestry Day was celebrated.

Aside from the value of the trees in rehabilitation of the land, this cooperative plan provided work equal to 7,357 man-months to residents of the twelve-county area during the 1939 fiscal year. Of this employment ninety-three per cent was from relief rolls of the counties. At the peak, 1,475 men were employed.

Another unusual accomplishment has been attributed to this tree planting program. The 1940 census figures recently released for Nebraska indicate a loss of 85,000 in population for the entire state. However in no instance was there a loss of population recorded in any of the twelve counties in which the concentration of newly planted trees is the greatest. It is a well known fact that large numbers of farms were deserted following the black blizzards of 1933 and '34. The census figures indicate there is a "back to the farm" movement in progress and authorities insist that the trees which temper the hot winds of the region have played an important part in this trend.

The twenty thousand people who journeyed through the area and met with old friends and neighbors at the Neligh park returned to their homes with a deep appreciation of the part trees play in the social and economic life of a community. They had seen *prima facie* evidence of how trees have given renewed hope to vast numbers of men, women and children and saved millions of acres of land from destruction.

A pioneer settler who had helped break the sod of Nebraska, who had seen the land nearly destroyed, and who was now watching it regain its fertility, expressed

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the opinion of many who had taken part in the Forestry Day celebration, when he said:

"Every child should be taught to appreciate trees and how to plant them. They could do no better than to learn the rules Old Jules tried to teach us. 'Spread the roots carefully, tramp the dirt hard and cultivate.'"

Trees of Yesterday

(Continued from page 499)

unthinkingly, and with little knowledge of soil and water conditions or the requirements of plant growth, suggest that these worked lands be leveled down to their former contours. If this were done the result would be a barren plateau instead of the present interesting hills and valleys and lakes capable of rapid tree growth and a return to the community in new forest industries — not to mention present and future recreational values.

The program for the future includes the planting each year of at least as many acres as are worked the previous year. In 1941 it includes the start of a pulpwood experiment with cottonwoods and poplars on 800 acres.

There is romance in the whole cycle. A romance of trees of yesterday which made the coal industry possible — and the trees of today and tomorrow.

Plan for Prefabricated Housing

(Continued from page 513)

It is a big jump from a southern plantation to the South Pole, but this is just where the prefabricated panelized system of construction has gone. While camps designed by the Quartermaster Corps and purchased for the United States Antarctic Expedition—the Byrd Expedition which sailed in November, 1939—differ considerably from those used by the CCC, yet their fundamental principle of construction is the same. The differences are matters of detail. The Antarctic buildings are designed to support a load of 300 pounds a square foot, or the equivalent of more than fifteen feet of snow on the roof with a large factor of safety. They are insulated against temperatures of minus seventy-five degrees below zero.

Five years ago, when the need for demountable and portable barrack buildings first became apparent, no one could anticipate the future of this so-called prefabricated type of construction, nor can anyone now prophesy what future developments are in store for panelized construction. It has in the past and is now providing highly efficient troop housing. Should the occasion arise it will be in accord with the needs of the nation during any major effort, for it provides conservation of natural resources and conservation of man power, two very vital items. Or, it may even be the basis of mass production of truly low-cost housing.

WHO'S WHO

Among the Authors in This Issue

CHARLES R. SMITH (*Trees That Temper Hot Winds*) is a native Nebraskan, widely traveled. His avocation is writing about the interesting things which, he says, make the Middle West the best place in America in which to live.



J. V. K. Wagar

teaches a course on National Park Management.

HARRY BOTSFORD (*The Grandest Bird of Them All*), well-known to our readers as writer and outdoorsman and living in the Pennsylvania hills, loves to be "knee-deep in the woods" all the time.

HARRY C. HYATT (*Trees of Yesterday and Tomorrow*) of Terre Haute, Indiana, was for six years City Forester of Cleveland, Ohio. Later he covered the whole country in the interests of forestry as related to public utilities. He is now Director of Conservation for the Indiana Coal Producers Association.

JAMES N. MORTON (*Wildlife Education by Posters*) is a Penn State Forest School graduate—year of 1916—identified with forestry work until 1925. He is now Chief of Game Land Management for the Pennsylvania Game Commission.

CLAY PERRY (*Rolling at the Roleo*) is a product of the Northwoods, for he was born among the pines and balsam firs of Badger, Wisconsin. A writer and conservationist of note, his book, "Heart of Hemlock," was the first American novel to describe the manufacture of paper from wood.

FRANK A. WAUGH (*Hardy as an Oak*), well-known writer and landscape architect, is professor of horticulture at Amherst College in Massachusetts. When he takes time off from his work and writing books—photography, music and landscape work are his hobbies.



Frank A. Waugh

EVERETT H. MACDANIELS (*Beating the Beetles*) was graduated from the Yale Forest School in 1909 and entered the Forest Service the same year, going right up the line to become supervisor of the Chelan and Siskiyou National Forests. Now with the Division of Education, he served six months as Fire Chief on the New England blowdown.

THE COVER—*The Forest Floor in November*. Photograph by D. E. Ahlers.

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A few recommended books on forestry and outdoor subjects are listed herewith. Prices quoted are not guaranteed, but to the best of our knowledge are correct. A more complete list of approximately 200 books will be mailed to you on request.

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GOOD FORESTRY IS A LOCAL MATTER

"WE THINK extensions of regulation as from time to time may be desirable, should be local regulations administered under STATE LAW.

At the same time the FEDERAL GOVERNMENT in its efforts to encourage, facilitate, and support good forestry practice in any STATE will, of course, continue as now under the CLARKE-McNARY ACT, the means of assuring wise and productive use of such additional funds as, IN COOPERATION WITH THE STATES, it chooses to invest in NATION-WIDE promotion of FOREST CONSERVATION, the maintenance of FOREST EMPLOYMENT, and the greater SECURITY of FOREST DEPENDENT COMMUNITIES.

"WE BELIEVE that such a program of combined action and obligation of FOREST OWNER, GOVERNMENT and STATE will satisfactorily meet the problem of FOREST CONSERVATION.

"WE HOPE such a program will have the encouragement of CONGRESS and of the FEDERAL FOREST AGENCIES"*



Secretary and Manager.

NATIONAL LUMBER MANUFACTURERS ASSOCIATION

1337 Connecticut Ave.

Washington, D. C.

*From the statement of Wilson Compton, before the Congressional Joint Committee on Forestry, January 17, 1940.

